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Annual Report

of the

Sewerage Commission of the City of Baltimore

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BALTIMORE
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PUBLIC PRINTER

1913

JONES' FALLS CONDUITS, SECTION No. 1.

Looking South from Centre Street Bridge, Showing Cofferdam Ready for East Conduit.

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JONES' FALLS CONDUITS, SECTION No. 1.

Looking South from Centre Street Bridge, Showing Conduits and Fallsway Paving Completed.

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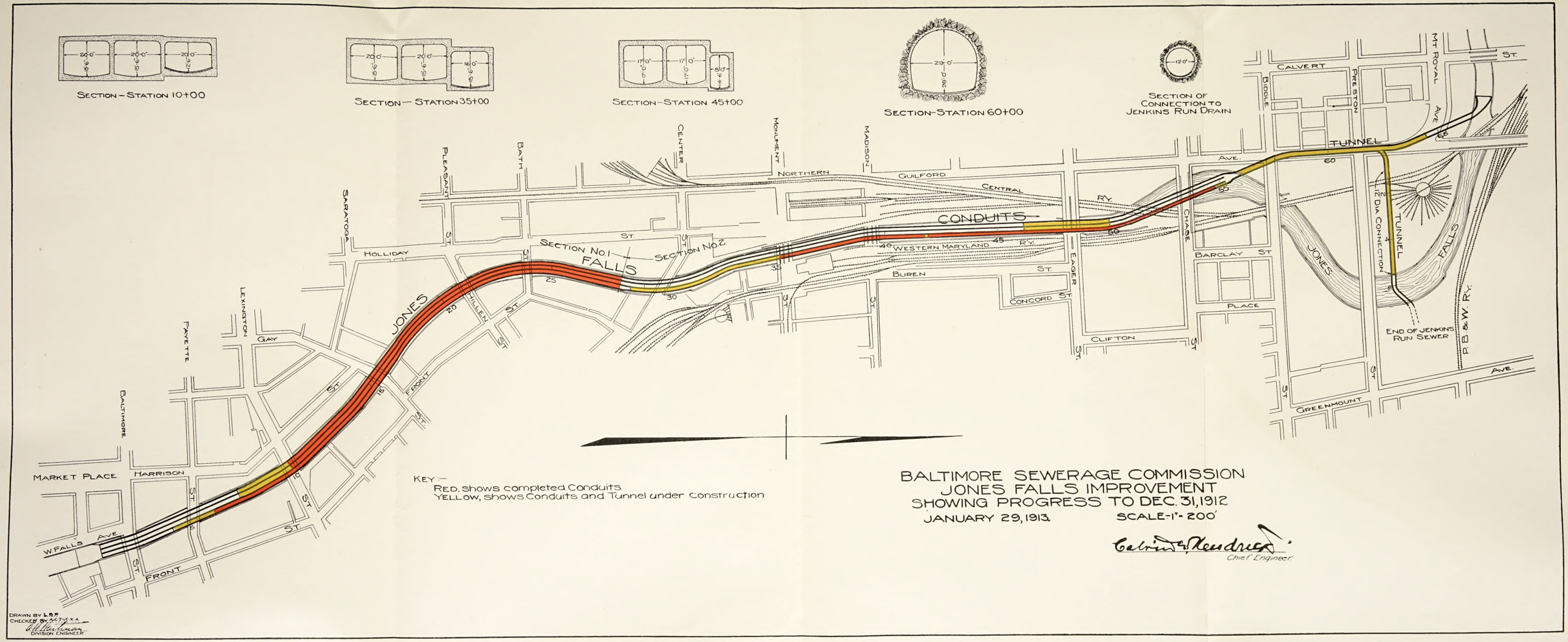

SECTION – STATION 10+00
SECTION – STATION 35+00
SECTION – STATION 45+00
SECTION – STATION 60+00
SECTION OF CONNECTION TO JENKINS RUN DRAIN
CONDUITS
TUNNEL
JONES FALLS
SECTION No. 1
SECTION No. 2
NORTHERN CENTRAL RY.
GULFORD
WESTERN MARYLAND RY.
P. B. & W. RY.
12" DIA CONNECTION
END OF JENKINS RUN SEWER
MARKET PLACE
HARRISON
W. FALLS AVE.
FRONT ST.
GAY ST.
HILLEN ST.
HOLLIDAY ST.
BALTIMORE
FAYETTE
LEXINGTON
SARATOGA
PLEASANT
BATH
CENTER
MONUMENT
MADISON
BUREN ST.
CONCORD ST.
CLIFTON ST.
EAGER
CHASE
BARCLAY ST.
PLACE
GREENMOUNT AVE.
BIDDLE
CALVERT
PRESTON
MT. ROYAL AVE.
KEY:–
RED, shows completed Conduits
YELLOW, shows Conduits and Tunnel under construction
BALTIMORE SEWERAGE COMMISSION
JONES FALLS IMPROVEMENT
SHOWING PROGRESS TO DEC. 31, 1912
JANUARY 29, 1913
SCALE-1"=200'
Calvin W. Hendrick
Chief Engineer
DRAWN BY L.B.P.
CHECKED BY A.C.T.C.K.A.
DIVISION ENGINEER

SEWERAGE COMMISSION

OF THE

CITY OF BALTIMORE

AMERICAN BUILDING

BALTIMORE, December 31, 1912.

HON. JAMES H. PRESTON,
Mayor of Baltimore.

SIR:

In pursuance with the requirement of Section 1, Chapter 349, of the Acts of General Assembly of Maryland of 1904, that the Sewerage Commission shall annually make to the Mayor a detailed report of its official transactions and expenditures, we have the honor to report:

The death of William W. McIntire, March 3, 1912, also that of J. Edward Mohler, August 6, 1912, deprived the Commission of two most useful members. Mr. McIntire had been a member of the Commission less than one year, while Mr. Mohler was one of the original appointees. Both served the City's interests faithfully, always appreciating the responsibilities of their positions. They were highly esteemed by their colleagues on the Commission, and their deaths deeply deplored.

On April 16, 1912, William B. Kines, was appointed to fill the vacancy caused by the death of William W. McIntire, and on September 10, 1912, Gustav Siegmund was named as successor to J. Edward Mohler.

ACCOUNTS AUDITED.

The books and accounts of the Commission were duly examined by the Baltimore Audit Company, from the date of the last audit to the close of the business December 31, 1912. The Audit Company reports as follows:

"We have completed, under our contract with the Mayor and City Council of Baltimore, an audit and examination of your books and accounts for the year 1912, which included the examination of original vouchers at the Comptroller's office in the City Hall, and are pleased to state that everything was found to be correct and in good order.

"During the course of our examination we have made the usual complete audit of the details of your books, and wish to comment upon the efficient manner in which they are kept."

EXPENDITURES 1912.

There has been submitted to the City Comptroller a complete and detailed statement of disbursements for the year 1912 as follows:

Construction	$2,181,838 22
Construction salaries	187,562 18
Administrative salaries	27,428 99
Special expenses	36,261 26
	$2,433,090 65
CREDIT—	
By amount derived from sale of plans and supervision of private drain construction, rent, old material, etc.	5,352 13
Net amount expended in 1912	$2,427,738 52

CONTRACTS LET IN 1912.

Sanitary Contract No. 80, Bond & Bates	$15,917 95
Sanitary Contract No. 83, Pacific Flush Tank Co	2,509 00
Sanitary Contract No. 79, M. J. Beach	35,527 10
Sanitary Contract No. 81, Ryan & Reilly	171,367 75
Sanitary Contract No. 84, Ryan & Reilly	12,832 25
Sanitary Contract No. 85, Gallagher, Boyle & Mueller	24,711 50
Storm-water Contract No. 19, B. F. Sweeten & Son	51,284 85
Storm-water Contract No. 20, Ryan & Reilly	18,895 00
Sanitary Contract No. 86, B. F. Sweeten & Son	92,424 35
Sanitary Contract No. 87, B. F. Sweeten & Son	163,976 00
Sanitary Contract No. 88, James Ferry & Sons	84,904 50
Sanitary Contract No. 89, H. C. Brooks & Co	44,840 00
Sanitary Contract No. 90, Ryan & Reilly	44,240 25
Coal, Lynah & Read	4,080 00
Storm-water Contract No. 21, C. B. Clark & Co	103,316 45
Sanitary Contract No. 91, Carozza & Lavezza	3,549 20
Sanitary Contract No. 92, Gallagher, Boyle & Mueller	30,697 50
Sanitary Contract No. 93, William McCarthy & Co	65,249 50
Sanitary Contract No. 94, Gallagher, Boyle & Bryan	36,121 25
Sanitary Contract No. 95, Ryan & Reilly	109,383 50
Storm-water Contract No. 22, B. F. Sweeten & Son	164,972 72
Sanitary Contract No. 97, Gallagher, Boyle & Bryan	35,690 55
Sanitary Contract No. 98, James Ferry & Son	39,846 75
Sanitary Contract No. 99, William McCarthy & Co	31,358 00
Sanitary Contract No. 100, Lane Bros. Co	400,772 00
Sanitary Contract No. 101, Standard Lime and Stone Co.	487,550 00
Sanitary Contract No. 102, C. B. Clark & Co	117,503 10
Sanitary Contract No. 103, Ryan & Reilly	38,733 65
Storm-water Contract No. 23, William McCarthy & Co	5,990 27
Sanitary Contract No. 104, William McCarthy & Co	80,289 75
Sanitary Contract No. 105, Carozza & Lavezza	20,768 45
Sanitary Contract No. 106, William McCarthy & Co	37,834 25
Storm-water Contract No. 24, B. F. Sweeten & Son	166,194 00
Storm-water Contract No. 25, James Ferry & Sons	279,990 25
	$3,023,321 64

There was steady progress in the work of the Commission during the year. The large amount of construction, involving

the expenditure of considerable sums of money, correspondingly increased the business of the Commission, and added to its work and responsibility in the proper disbursement and accounting of such large sums. The report of the Chief Engineer, covering in detail the work of his Department, is submitted herewith.

SEWERS IN ORANGEVILLE.

A request was received from the Orangeville Improvement Association of Baltimore County, inquiring upon what terms the inhabitants of that section could connect with the out-fall sewer. After a consultation with the City Solicitor the Orangeville Improvement Association was informed that according to the Act of the Legislature, application must be made through the County Commissioners of Baltimore County, acting as a Highway Commission for Baltimore County, and that any connection with the out-fall sewer must be approved by the Chief Engineer of the Sewerage Commission; and the work of tapping the out-fall sewer must be done by the County Commissioners, and at their expense, but under the direction and control of the Chief Engineer of the Sewerage Commission. Also, that the County Commissioners pay the cost of disposing of the sewage thus brought into the out-fall sewer, which cost shall include not only the actual cost of pumping and disposing of the sewage, but also the pro-rata cost of maintaining the disposal plant.

SLUDGE DISPOSAL.

There was introduced in the City Council an Ordinance granting the exclusive right and privilege, to parties named therein, to take the sludge of all sewage assembled at the City's Sewage Disposal Plant at Back River, in return for which the City was to receive a certain per cent. of the gross receipts from the business of handling and sale of the sludge. The Commission, in opposition to this measure, appeared before a Joint Committee of the City Council, to which it was referred, and

where it is now pending. The Commission has always regarded the possibilities of revenue from the disposal of the sludge or solid matter obtained from the sewage at the Disposal Plant, but deem it most unwise for the City to enter into any contract or agreement until a more general house connection with the sewerage system will enable the Commission by investigation to ascertain more fully the commercial value of the sludge. Such an investigation in the future can alone determine whether it is more desirable for the City to dispose of the sludge by preparing it for marketing purposes, or by receiving competitive bids for it in its crude state. The fact that the Commission has received propositions for the purchase of the sludge, other than that contemplated in the ordinance, shows unmistakably that in this, as in all other matters of contract on the part of the City, competitive bidding is the only proper basis.

SEWERING OF BAY VIEW AND BUILDINGS.

Upon your request and in accord with a suggestion of the Board of Supervisors of City Charities, the Commission directed that a lateral sewer be constructed from Bay View to the out-fall sewer; also that connections with the various buildings be made with the lateral, and the Chief Engineer was further directed to make an extended study of the rearrangement of the existing drains, as desired by the Supervisors of City Charities. Later, Sydenham Asylum was included. This being City property in Baltimore County, its sewering was authorized by one of the Acts passed by the Legislature.

JONES FALLS' VIADUCT

In accordance with a request of the Board of Estimates, it was decided that, in order to meet certain requirements, the work of placing the foundations of the Jones' Falls Viaduct, between Eager and Chase streets, be done in connection with

the construction of the Jones' Falls conduits, and under Contract No. 2. The Board of Estimates agreed that the Sewerage Fund should be fully reimbursed in the Ordinance of Estimates, to be taken out of the Jones' Falls Loan Fund.

DRESDEN INTERNATIONAL HYGIENIC EXPOSITION.

Information was received from the Dresden International Hygienic Exposition that the Sewerage Commission's Exhibit at that Exposition had been awarded a diploma. This diploma will be duly forwarded to this City from Dresden.

Respectfully,

CHARLES ENGLAND, *Chairman*,
JAMES H. PRESTON, *Ex-Officio*,
WILLIAM D. PLATT,
MORRIS WHITRIDGE,
IRA REMSEN,
WILLIAM B. KINES,
GUSTAV SIEGMUND.

HARRY W. RODGERS, *Secretary*.

ANNUAL REPORT

OF THE

Chief Engineer for the Year 1912

BALTIMORE, December 31, 1912.

MR. CHARLES ENGLAND, *Chairman; and*
Gentlemen of the Sewerage Commission.

DEAR SIRS:

I have the honor to present to you a report upon the work done by the Engineering Department of the Commission from January 1, 1912, to December 31, 1912.

The total value of the work done during the year was $2,534,402.55.

In addition to prosecuting work on contracts carried over from the previous year, we have let during 1912, 34 contracts, amounting to $3,023,321.64.

The total length of sewers and drains laid from the beginning of the work to December 31, 1912, is 1,688,684.09 linear feet, or 319.83 miles, ranging in size from 5 inches to 12 feet in diameter.

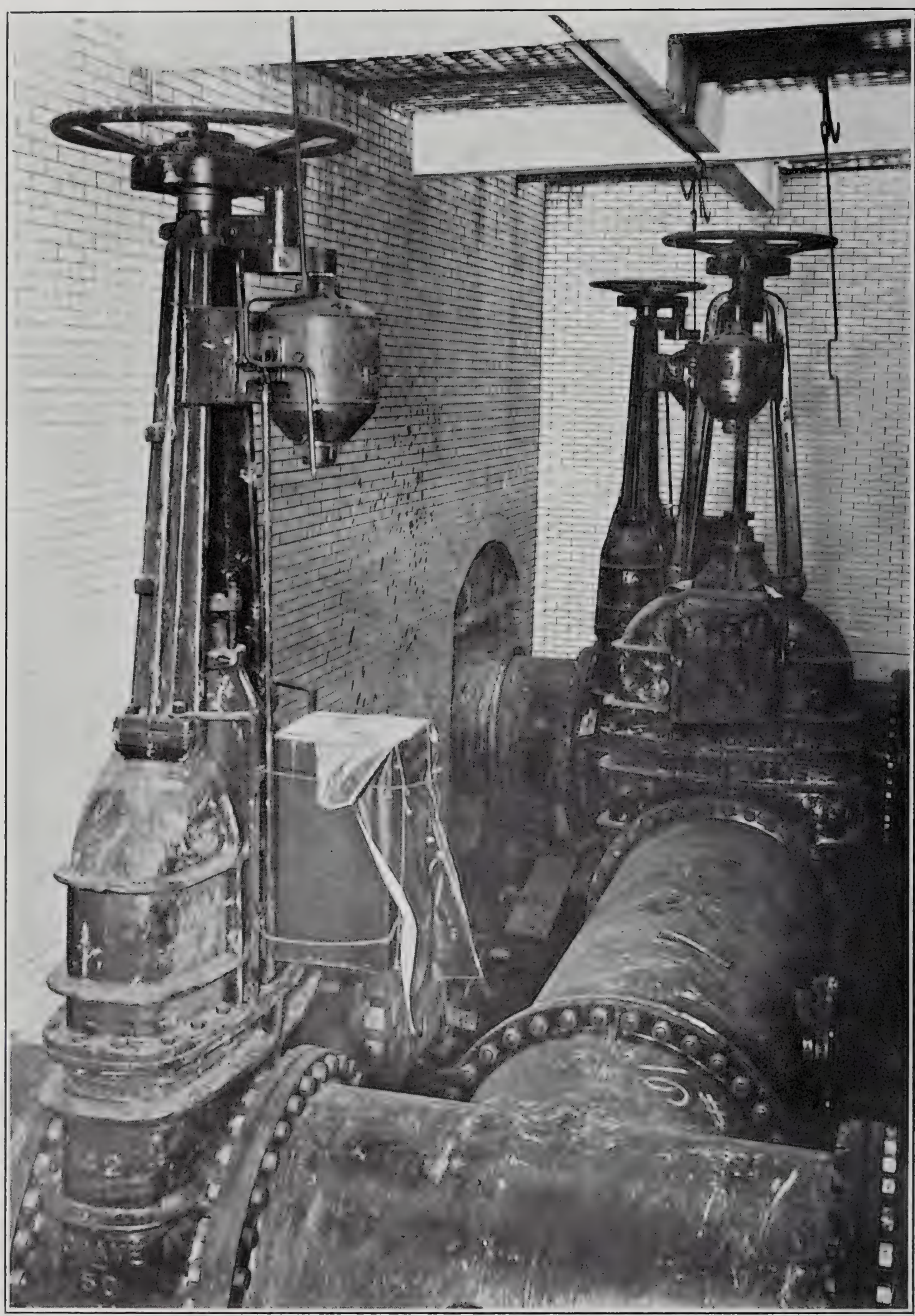
In addition to the above, we have completed sufficient units at the Disposal Plant to care for the sewage from approximately 275,000 people, and have just let additional contracts for units to bring the capacity of the plant up to 600,000 people. We have also completed and placed in operation the Sewerage Pumping Station, with three 27,500,000-gallon pumps.

One of the important features of the year was the completion of the sewage pumps at the Pumping Station and placing them in operation. Elaborate ceremonies were held on January 31, and the three pumps were started for the first time by His Honor, Mayor James H. Preston. Mr. Charles M. Schwab, President of the Bethlehem Steel Company, the builder of the pumps, was present, as were also the members of the Commission and other prominent City officials. The operation of these pumps since that date has been in every way most satisfactory and fully up to our expectations.

The past year has been one of great activity on the part of everyone connected with the sewerage, drainage and disposal construction. The difficulties have been greatly increased on account of the extensive paving program, necessitating our having to readjust the method of carrying on the sewer work from that which has been followed heretofore, on account of having to scatter our work in small pieces.

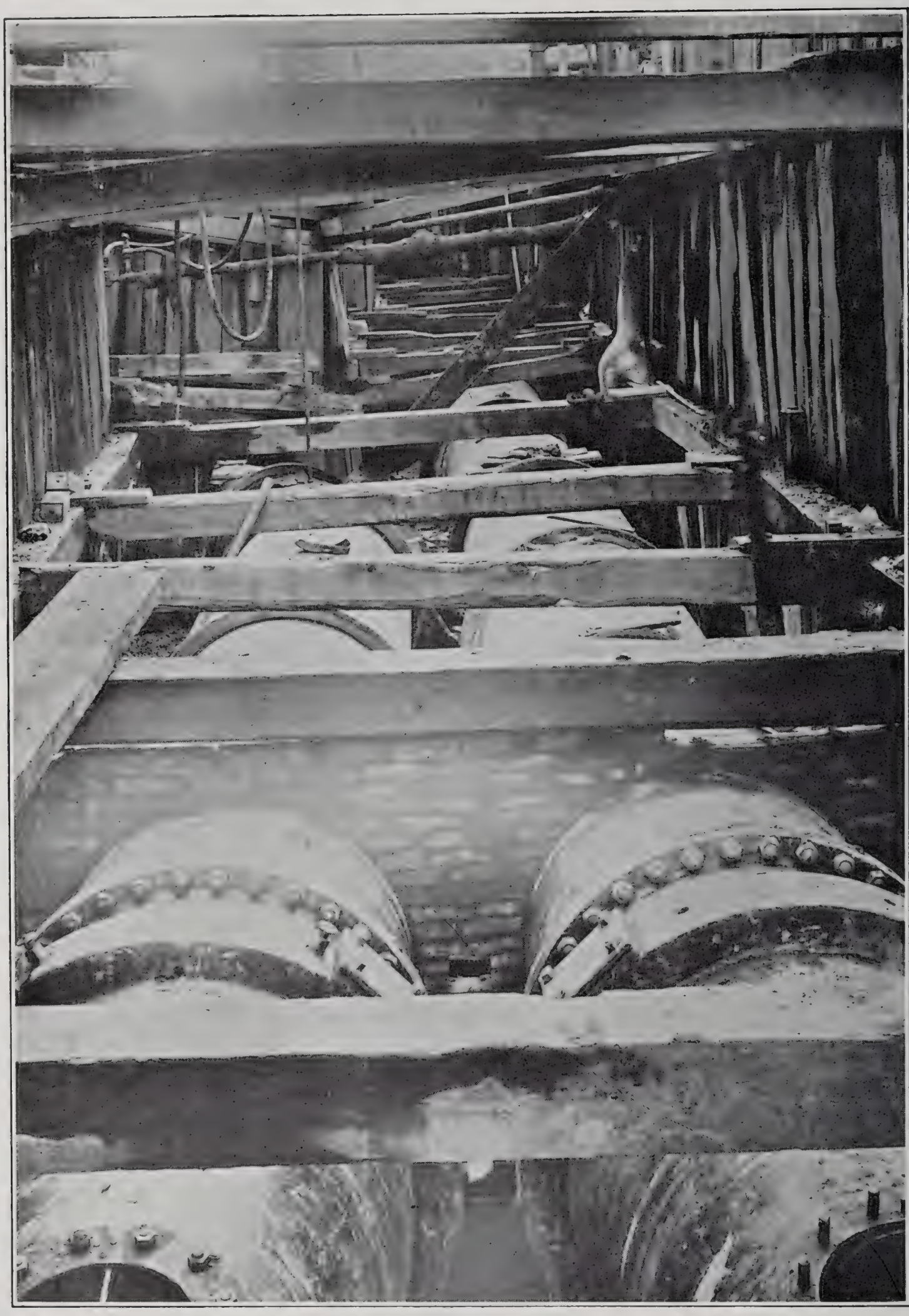
In planning for the expenditure of the first loan, the sanitary work was given precedence over the storm-water construction, and storm-water drains were only constructed where damage suits against the City had been instituted, and upon urgent requests from the City Solicitor, Board of Health and City Engineer to relieve conditions in other sections which were acute. Therefore, large areas of sanitary sewers were completed, with but few storm-water drains in these sections.

When the Paving Commission began active operations, it was found necessary to build the storm-water drains, in order to eliminate the cross-gutters. The Commission, in the meantime, having received the second loan, promptly began the introduction of storm-water drains in these sections, and also, at additional cost to both the contractors and the Commission, built sections of sanitary sewers in various streets in order to co-operate with the Paving Commission. This has entailed an enormous amount of extra work on the engineering, designing and construction departments, and has added very greatly



SEWAGE PUMPING STATION.

Discharge Piping from Engines No. 1 and No. 2, and Electrically-Operated Valves.



SEWAGE PUMPING STATION.

Up-Stream Pressure-Chambers of 42-Inch Venturi Meters in Force Mains Leading from Pumping Station.

PRIVATE DRAIN UNCOVERED IN SANITARY SEWER TRENCH, SHOWING CROOKED ALIGNMENT.

LATERAL SANITARY SEWER IN TUNNEL, BALTIMORE AND NORTH STREETS.

The Sewer Has Been Completed and Imbedded in Concrete, Ready for the Backfilling of the Tunnel.

HIGH LEVEL INTERCEPTOR.

Tunnel at Madison and Cathedral Streets. Inspection by His Honor, Mayor James H. Preston, Chief Engineer Calvin W. Hendrick and Members of the Sewerage Commission.

HIGH LEVEL INTERCEPTOR.

Completed Curve at Centre and Cathedral Streets. Diameter of Sewer, 82 Inches.

to the difficulties of the contractors in prosecuting their work, on account of having, in many cases, no outlet for the ground-water. This co-operation on the part of the Commission, however, has resulted in the Paving Commission being able to let and construct a large amount of paving work.

In addition to the large mileage of sanitary lateral sewers constructed during the year, one of the most important pieces of sanitary work undertaken was the Locust Point Interceptor, which skirts the south side of the harbor. At the end of the year the contractor had completed quite a large section of this sewer in York street, between Light street and Battery avenue, and in Hughes street east of Battery avenue.

On the High Level Interceptor over a mile of tunnel has been driven under the streets of the City, bordered by expensive buildings, part of which was in very wet and soft material, making the work very difficult.

An important link in the High Level Interceptor is the siphon on Eager street, crossing Jones Falls, consisting of one 36-inch and two 42-inch cast-iron pipes, depressed to pass under the tracks of the Pennsylvania Railroad and the Western Maryland Railway and over the Jones Falls Conduits. With the completion of this work there will be an outlet for all the high level laterals east of Myrtle avenue and Saratoga street, and a continuous sewer from this point to Back River.

A large part of the work of the year was the no less necessary, but less interesting, work on the lateral sewers and house-connections. This work involves a vast amount of detail in connection with obstructions, investigating and locating house-connections to best serve the properties affected, and many other matters which in themselves seem small, but which if not properly looked after would create a large amount of trouble and complaint.

The large number of private sewers in the alleys now being sewered adds greatly to the difficulty of the work. In one fifteen-foot alley four 8-inch and five 6-inch private drains

were encountered. In this alley there was a great amount of running water and sand, and a 6-inch water main.

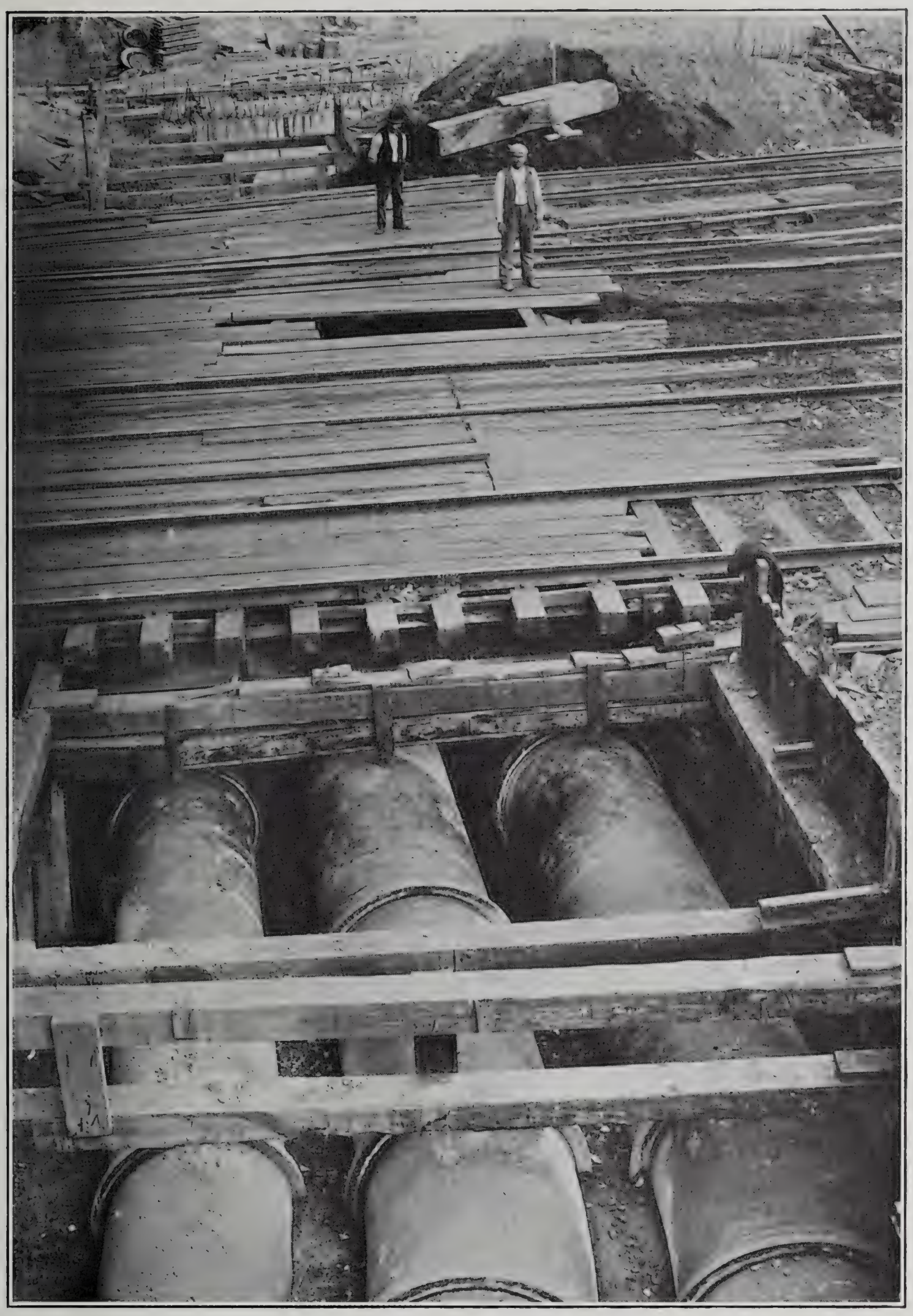
The alley construction is unusually difficult on account of the surface drainage and the proximity of old buildings, in addition to underground obstructions. We have been very fortunate in getting through with so little damage.

Although contract plans for the storm-water system have been prepared, including work in all sections of the City, a special effort was made to complete as much of the system in South Baltimore as practicable, so that a large part of the work included in Storm-Water Contracts Nos. 21, 22, 23 and 24 is in South Baltimore. As soon as this work is completed, in connection with the sanitary system, the streets in this section will be rapidly released to the Paving Commission for paving, and in a very short time this section of the City will not only be possessed of complete sewerage and drainage systems, but also improved paving.

Jones Falls Work.

The Jones Falls work has proceeded in a most satisfactory manner, notwithstanding the contractors had to encounter one of the most severe winters in forty years, together with numerous heavy floods..

The Falls have been entirely enclosed for a distance of 1,940 feet; in addition, 2,672 feet of the East Conduit has been completed. The heading of the tunnel under Guilford avenue has been extended from the entrance of the retaining wall, between Biddle and Chase streets, to a point 250 feet beyond Preston street, a total distance of 800 feet. The heading of the Jenkins Run Sewer tunnel has been extended through to meet the large tunnel, a distance of 430 feet. The rock excavated from this tunnel is being crushed and used to form the concrete conduits in the bed of the Falls below Chase street. This was taken into consideration and included in our approximate estimates when



HIGH LEVEL INTERCEPTOR.

Inverted Siphon at Eager Street and Jones' Falls. This Siphon Consists of Two Lines of 42-Inch and One Line of 36-Inch Cast-Iron Pipes. It Passes Under the Railroad Tracks and Is Built into the Top of the Jones' Falls Conduits.

HIGH LEVEL INTERCEPTOR.

Obstructions in Trench at Myrtle Avenue and Waesche Street—Three Private Drains and Two Gas Mains.

CONSTRUCTING A LATERAL SANITARY SEWER IN A NARROW ALLEY.

forming my plans for the Jones Falls construction. The use of this stone has resulted in a large saving to the City.

We hope to have the work completed from a point 175 feet south of Centre street to Baltimore street by June, 1913.

Fallsway Viaduct.

I have about completed plans for the viaduct to carry the roadway from Madison street over the Northern Central tracks, intersecting Eager and Chase streets, and Biddle street at Guilford avenue. This work, however, cannot be put under contract until the conduits in the bed of the Falls, from Madison street to the entrance to the tunnel, are completed. We are, however, proceeding with the construction of the piers for the viaduct that will rest on the roof of the conduits, and on the west side, as the work on the conduits proceeds.

This improvement, in connection with the enclosing of Jones Falls, will be of far-reaching value to the whole City in the increase in taxes, improvement of health and traffic conditions, and will be one of the best business ventures the City has ever entered into.

Another feature of the Jones Falls work, which was started and completed during the year, is the Drift-Catcher, located just south of the Cedar Avenue bridge across the Falls, which will prevent any large floating material from entering the closed part of the Falls.

Disposal Plant.

When the Commission came into existence, they had funds at their disposal sufficient to complete about one-half of the system, and not knowing whether they would later on have sufficient money to complete the whole system, I designed the Disposal Plant and laid out sufficient sewers to take care of practically one-half the City, so that in case the balance of the money was not forthcoming, the City would have completed

the system as far as the money went. The balance of the funds having been secured, however, we have laid out additional units at the Disposal Plant to take care of the City as outlined in our original plans. The contracts for these units amount to $888,322.

Trees have been planted and roads built at the Disposal Plant which, with the electric lights produced by the flow of the sewage, make this improvement one of great attraction. It is well worth a visit from any taxpayer who is interested in the improvement of his City. We are having persons from all parts of the world visit Baltimore for the purpose of inspecting this plant—strangers are more familiar with the work going on in Baltimore than are many of the Baltimoreans.

Harbor Odors.

In order to relieve the unbearable odors emanating from the harbor, before the sanitary sewers were completed that would intercept the sewage draining into it, the Commission intercepted the dry weather flow of the main storm-water drains discharging into the harbor, thereby diverting a large amount of sewage from the hotels and big office buildings to the Sewage Pumping Station. In addition, a large amount of the flow of Jones Falls was diverted by pumping it through the Pumping Station to Back River and there purified—resulting in great relief from the odors of the harbor, and statements from the steamboat men that they had not only been relieved of the odors, but that the cost of painting their boats had been materially reduced.

House-Connections.

We have turned over to the Health Department over 21,000 houses to have notices sent to connect to the sanitary sewers.

We have laid sewers and drains in portions of over 1,000 streets and alleys. Sanitary sewers have been laid during the

JONES' FALLS CONDUITS, SECTION No. 1.

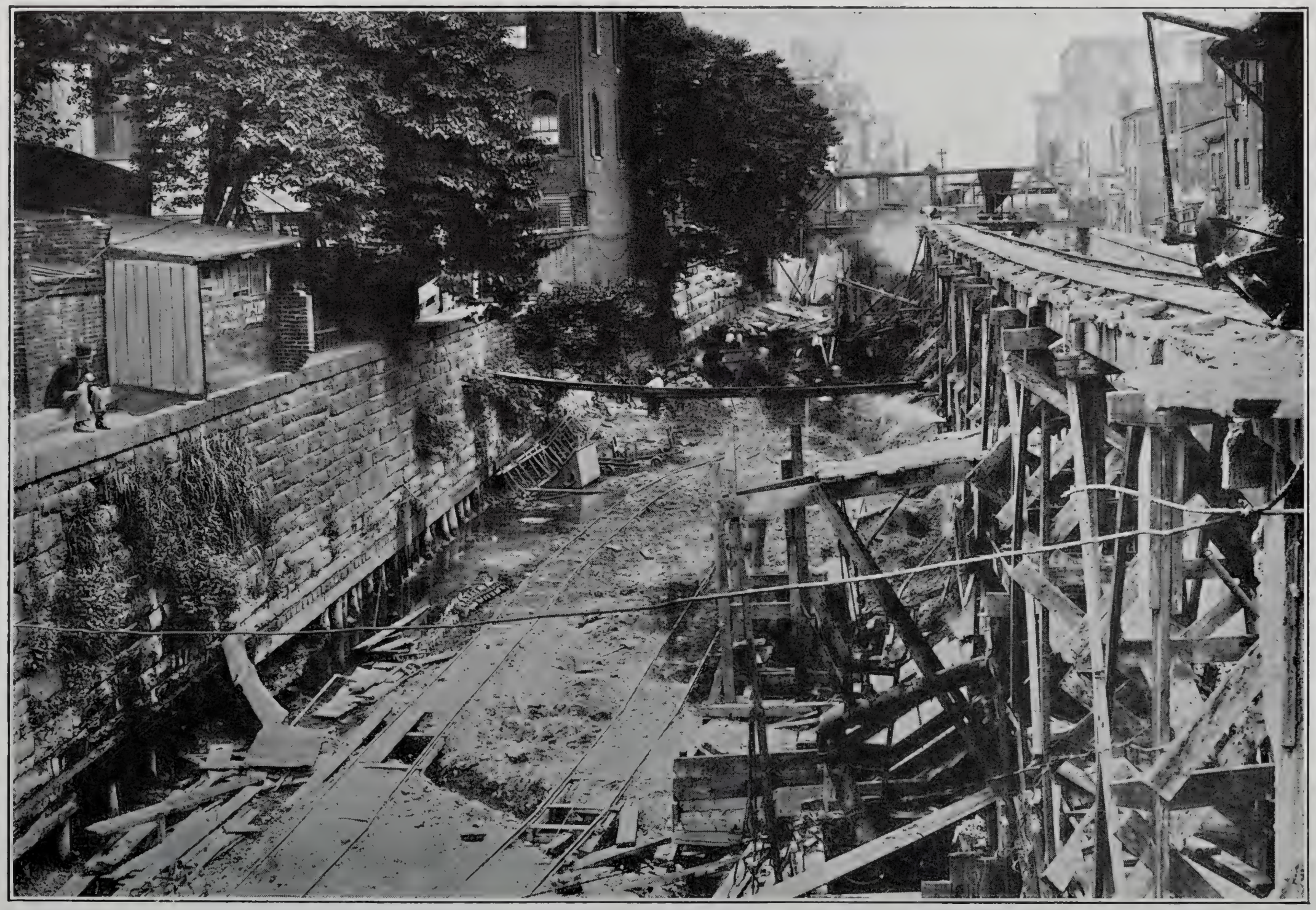
Looking South from Fayette Street to Baltimore Street; Cofferdam for East Conduit Completed, Ready for Pumping Out.

JONES' FALLS CONDUITS, SECTION No. 1.

Looking South from Fayette Street to Baltimore Street; Cofferdam for East Conduit Completed and Excavation in Progress.

JONES' FALLS CONDUITS, SECTION No. 1.

Looking South from Fayette Street to Baltimore Street, Showing High Water During Flood of September 24, 1912.



JONES' FALLS CONDUITS, SECTION No. 1.

Excavation for East Conduit in Progress, Between Lexington and Fayette Streets.

year 1912 in the areas described as follows, and the sanitary system within these areas is practically completed:

Beginning at Pratt and Light streets, to Fayette street, to Calvert street, to Saratoga street, to Charles street, to Pleasant street, to Calvert street, to Jones Falls, to Pratt street, to point of beginning.

Beginning at Lanvale street and Park avenue, to Laurens street, to Linden avenue, to Whitelock street, to Bolton avenue, to Druid Hill Park, to Mount Royal Terrace, to North avenue, to Jones Falls, to Lanvale street, to point of beginning.

Beginning at Fayette and Aisquith streets, to Eager street, to Gay street, to Wolfe street, to Ashland avenue, to Broadway, to Monument street, to Bond street, to Fayette street, to Fairmount avenue, to Broadway, to Pratt street, to Caroline street, to Gough street, to Central avenue, to Fawn street, to High street, to Eastern avenue, to Jones Falls, to Pratt street, to Lloyd street, to Baltimore street, to East street, to Fayette street, to point of beginning.

Beginning at Valley and Twentieth streets, to Hope street, to Lanvale street, to Ensor street, to North avenue, to Valley street, to point of beginning.

Intercepting sanitary sewers have been built in the following streets:

Beginning at Cathedral and Centre streets, to Park avenue, to Mulberry street, to Greene street, to Saratoga street, to Myrtle avenue and Saratoga street.

Eager street, from Calvert street to Buren street.

Beginning at Light and York streets, to Battery avenue, to Hughes street, to Covington and Hughes streets.

In addition to the sewers laid within the above described areas, sewers have been laid in certain other areas and in certain streets and alleys in order to allow us to release streets for paving, as given in the following list. A few short lengths of sewer have been laid in other localities in order to provide connections for new buildings or to meet other conditions which arose during the year; these last mentioned sewers, in all cases,

were less than one block in length, and are not included in the following list:

Beginning at Cathedral and Preston streets, to Charles street, to Mount Royal avenue, to Calvert street, to Preston street, to St. Paul street, to Chase street, to Cathedral street, to point of beginning.

Beginning at Warren avenue and Light street, to Covington street, to Grindall street, to Riverside avenue, to Cross street, to Light street, to point of beginning.

Beginning at William and Cross streets, to Riverside avenue, to Clement street, to William street, to point of beginning.

Dolphin and Oliver streets, from Foster street to a point 200 feet west of Maryland avenue.

Hoffman street, from Eutaw street to Brevard street.

Preston street, from Eutaw street to Brevard street.

Bolton street, from Lafayette avenue to Hoffman street.

Ridgely street, from Ostend street to Fremont avenue.

Eutaw street, from Pratt street to Lee street.

Howard street, from Pratt street to Camden street.

Camden street, from Eutaw street to Howard street.

Dover street, from Eutaw street to Howard street.

Oswego avenue, from Towanda avenue to Reisterstown road.

Reisterstown road, from Oswego avenue to Sixth avenue.

Boarman avenue, from Calloway avenue to Lewin avenue.

Linden avenue, from Dolphin street to Hoffman street.

Linden avenue, from Preston street to Biddle street.

The streets in which storm-water drains have been constructed during the year are as follows:

Fairmount avenue, from Central avenue to Bethel street.

Caroline street, from Fairmount avenue to Fayette street.

Bond street, from Fairmount avenue to Fayette street.

Fayette street, from Central avenue to Eden street.

Fayette street, from Bond street to Broadway.

Wolfe street, from Jefferson street to McElderry street.

McElderry street, from Wolfe street to Chappel street.

McElderry street, from Eden street to Bond street.

Warden street, from Eager street to Chase street.

Chase street, from Warden street to Brentwood avenue.

Brentwood avenue, from Chase street to Biddle street.

Biddle street, from Brentwood avenue to Greenmount avenue.

JONES' FALLS CONDUITS, SECTION No. 1.

Looking North from Lexington Street, Showing Progress of Construction of East Conduit.

JONES' FALLS CONDUITS, SECTION No. 1.

Removing Girders of Lexington Street Bridge.

JONES' FALLS CONDUITS, SECTION No. 1.

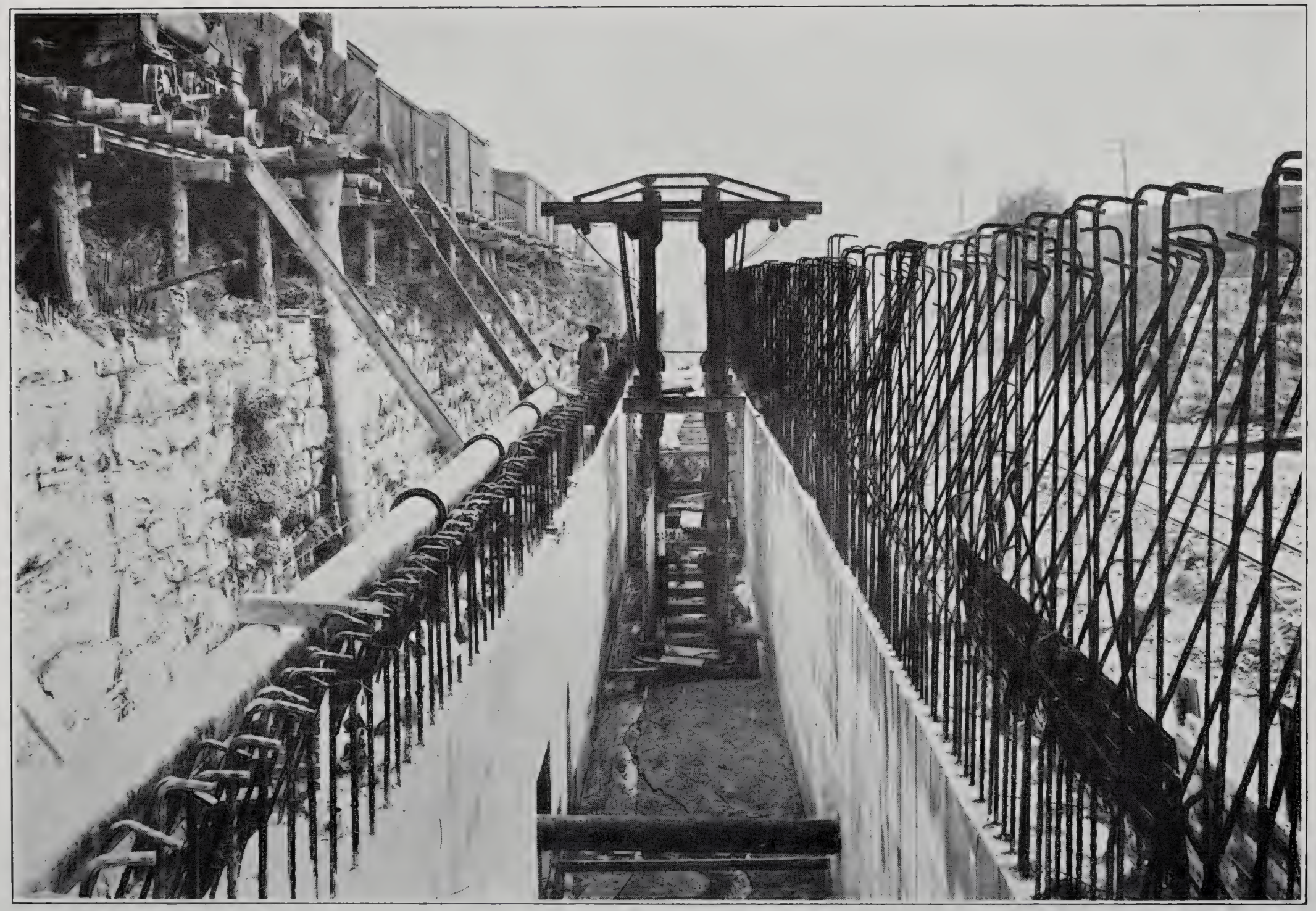
Channels Left in the Top of the Jones' Falls Conduits, at Gay Street, for Subway and Water Departments.

JONES' FALLS CONDUITS, SECTION No. 1.

Looking South from Centre Street, Showing East Conduit Completed and Centre and West Conduits Under Construction.

Caroline street, from Ashland avenue to Chase street.
German street, from Arch street to Greene street.
Greene street, from German street to Baltimore street.
Lee street, from Howard street to Sharp street.
Jefferson street, from Somerset street to Central avenue.
Orleans street, from Somerset street to Central avenue.
Jefferson street, from Eden street to Ann street.
Oliver street, from Lamont street to Caroline street.
Caroline street, from Oliver street to Federal street.
Oliver street, from Wolfe street to west side of Broadway.
Intersection of Washington street and Eager street.
Intersection of Brentwood avenue and Eager street.
Intersection of Forrest street and Eager street.
McDonogh street, from Eager street to Barnes street.
Fayette street, from High street to East street.
Wolfe street, Eager street to Madison street.
Ashland avenue, from Wolfe street to Washington street.
Intersection of Fayette street and Arch street.
Intersection of Raborg street and Arch street.
Intersection of German street and Arch street.
Intersection of Durham street and Eager street.
Intersection of Castle street and Eager street.
Bond street, from Hoffman street to Federal street.
McMechen street, from Druid Hill avenue to Madison avenue.
Fairmount avenue, from Collington avenue to Montford avenue.
Montford avenue, from Fairmount avenue to Fayette street.
Intersection of Pine street and Pin alley.
Intersection of Pine street and Melrose alley.
Intersection of Luzerne street and Monument street.
Intersection of Pine street and Saratoga street.
Intersection of Pine street and German street.
Intersection of Pine street and Lexington street.
Intersection of Pine street and Fayette street.
Intersection of Pine street and Raborg street.
Intersection of Pine street and Baltimore street.
Sharp street, from Stockholm street to Henrietta street.
West street, from Race street to Patapsco street.
Lee street, from Hanover street to Light street.
Heath street, from Race street to Light street.
Clarkson street, from Barney street to Heath street.
Barney street, from Clarkson street to Johnson street.
Charles street, from Heath street to Randall street.

Gwynn's Falls Park and Chestnut road.
Randall street, from Charles street to Battery avenue.
Granby street, from East Falls avenue to High street.
Fort avenue, from Light street to Battery avenue.
Jordan alley, from Robert street to Laurens street.
Federal street, from Guilford avenue to Barclay street.
Oliver street, from Latrobe street to Carter street.
Greenmount avenue, from Cemtery Gate to Belvedere street.
Preston street, from Greenmount avenue to Homewood avenue.
Greenmount avenue, from Preston street to Hoffman street.
Fort avenue, from Lowman street to Haubert street.
Woodall street, from Fort avenue to Clement street.
Clement street, from Towson street to Andre street.
Andre street, from Fort avenue to Clement street.
Hamburg street, from Light street to William street.
Fort avenue and Charles street.
Fort avenue and Patapsco street.
Fort avenue and Hanover street.
Fort avenue and Olive street.
Fort avenue and Marshall street.
Granby street and Exeter street.
Hanover street, from Winder street to McComas street.
Hanover street, from Moale street to waterfront.
Cromwell street, from Charles street to Hanover street.
Kelso street, from Marshall street to waterfront.
Castle street, from Bank street to harbor.
Intersection of Aliceanna street and Chester street.
Longwood street, from Stafford street to Frederick road.
Frederick road, from Longwood street to P., B. & W. R. R.
Frederick road, from Hurley's lane to Gwynn's Falls.
Frederick avenue, from Gwynn's Run to Smallwood street.
Lanvale street, from Pennsylvania avenue to Argyle avenue.
Argyle avenue, from Lanvale street to Mosher street.
Lafayette avenue, from Argyle avenue to Myrtle avenue.
Lafayette avenue, from Eutaw Place to Linden avenue.
Linden avenue, from Lafayette avenue to Mosher street.
Mosher street, from Eutaw Place to Bolton street.
Morris alley, from Lafayette avenue to McMechen street.
McMechen street, from Madison avenue to Eutaw Place.
Linwood avenue, from Lombard street to McElderry street.
Ensor street, from Monument street to Ashland avenue.
Preston street, from Ensor street to Harford avenue.



JONES' FALLS CONDUITS, SECTION No. 2.

Contracted Section of East Conduit, South of Eager Street, Showing Bottom and Sidewall Completed and Ready for Roof, with Traveler Used for Moving Forms.

JONES' FALLS CONDUITS, SECTION No. 2.

Looking North from Eager Street, Showing Progress.

JONES' FALLS CONDUITS, SECTION No. 2.

Heading of Tunnel Under the Intersection of Preston Street and Guilford Avenue.

JONES' FALLS CONDUITS, SECTION No. 2.

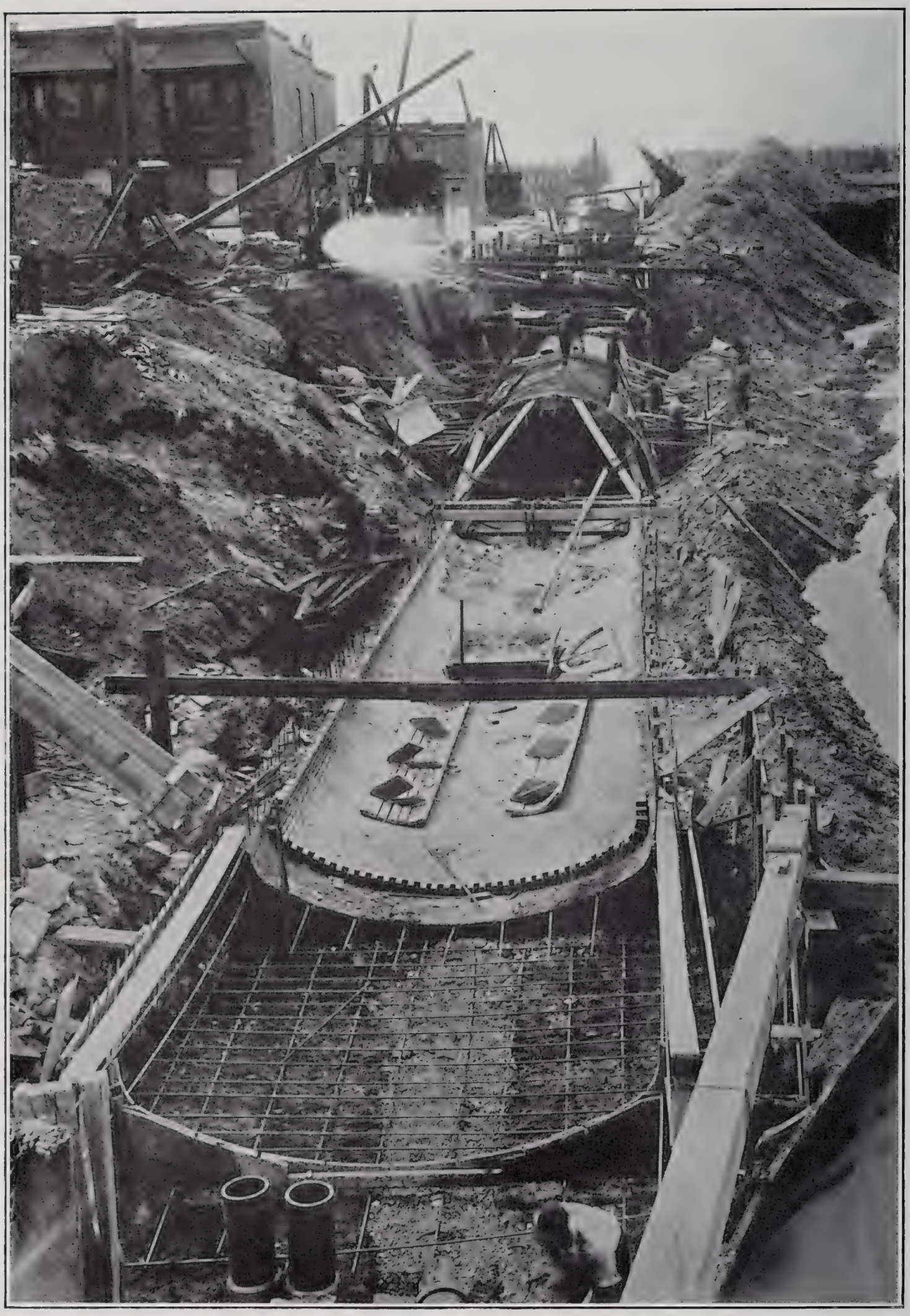
Drift-Catcher Across Jones' Falls at Rock Mill. This Structure Is Intended to Catch Heavy Drift (Trees, Buildings, etc.) and Prevent It from Being Carried into the Jones' Falls Conduits Further Down the Stream.

Eager street, from Valley street to Stirling street.
Chestnut street, from Gay street to Low street.
Intersection of Monument street and Graves street.
Intersection of Constitution street and Monument street.
Hillen street, from Jones Falls to Colvin street.
Aisquith street, from Low street to Monument street.
High street, from Low street to Gay street.
West side of Forrest street, from Ensor street to Hillen street.
Fayette street, from Collington avenue to Patterson Park avenue.
Front street, from High street to Exeter street.
Fayette street, from Wolfe street to Chester street.
Roland avenue, from Thirty-sixth street southward about 900 feet.
Madison street, from Washington street to Chester street.
Barre street, from Hanover street to Light street.
Conway street, from Hanover street to Light street.
Intersection of Camden street and Charles street.
Greenmount avenue, from Lanvale street to 250 feet north of Lafayette avenue.
Springdale avenue, from Thirteenth street to Fourteenth street.
Fourteenth street, from Springdale avenue to alley north of Springdale avenue.
Alley north of Springdale avenue, from Fourteenth street to alley west of Fourteenth street.
Beech avenue, from Ninth street to Tenth street.
Tenth street, from Beech avenue to Piedmont avenue.
Piedmont avenue, from Tenth street to point 200 feet west thereof.
Mulberry street, from Smallwood street to Payson street.
Monroe street, from Mulberry street to Penrose avenue.
Saratoga street, from Smallwood street to Monroe street.
Lexington street, from Wheeler street to Payson street.
Smallwood street, from Lexington street to Penrose avenue.
Penrose avenue, from Smallwood street to Bentalou street.
Bentalou street, from Penrose avenue to Lexington street.
Wheeler street, from Lexington street to alley south of Lexington street.
Alley south of Lexington street, from Wheeler street to Gwynn's Run.
Orem avenue, from Pennsylvania avenue to Parkwood avenue.
Morris avenue, from Orem avenue to Whittier avenue.
Whittier avenue, from Morris avenue to alley west of Auchentoroly Terrace.
Alley west of Auchentoroly Terrace, from Whittier avenue to Mondawmin avenue.

Hoffman street, from Linden avenue to Mason alley.
Lanvale street, from Linden avenue to Bolton street.
Mosher street, from Bolton street to Park avenue.
Lombard street, from Jones Falls to Exeter street.
Exeter street, from Lombard street to Baltimore street.
High street, from Lombard street to Watson street.
Polk street, from 400 feet south of Gorsuch avenue to Abbottston street.
Abbottston street, from Polk street to 250 feet east thereof.
Carswell street, from Polk street to 250 feet east thereof.
Alley south of Carswell street, from Polk street to 250 feet east thereof.
Alley south of Gorsuch avenue, from Polk street to Van Buren street.
Van Buren street, from alley south of Gorsuch avenue to Gorsuch avenue.
Gorsuch avenue, from Van Buren street to Kennedy avenue.
Kennedy avenue, from Gorsuch avenue to Abbottston street.
Carswell street, from Kennedy avenue to 120 feet east thereof.
Abbottston street, from Kennedy avenue to 175 feet east thereof.
Brook's lane, from Morris alley to Madison avenue.
Appleton street, from Presstman street to Baker street.
Hargrove alley, from Twenty-eighth street to 100 feet south thereof.
Twenty-second street, from Taylor street to Jenkin Run Drain.
Lafayette avenue, from Greenmount avenue to Barclay street.
Lafayette avenue, from Lovegrove alley to Calvert street.
Barclay street, from Lafayette avenue to North avenue.
Terminal street, from Courtney street to Jones Falls.
Carey street, from Cleaveland street to Columbia avenue.
Hill street, from Sharp street to Hanover street.
William street, from Warren avenue to Hamburg street.
Battery avenue, from Warren avenue to Hamburg street.
Ensor street, from Ashland avenue to Well street.
Intersection of Monument street and Buren street.
Intersection of Ensor street and Forrest street.
Caroline street, from Ashland avenue to Gay street.
Fayette street, from Greene street to Arch street.
Intersection of West street and Wall street.
Intersection of West street and William street.
Intersection of West street and Battery avenue.
William street, from Montgomery street to harbor.
Battery avenue, from Montgomery street to harbor.
Intersection of Springdale avenue and Twelfth street.

REINFORCED CONCRETE STORM-WATER DRAIN UNDER CONSTRUCTION.

This Drain Is Five Feet Nine Inches Wide by Three Feet High, and Passes Through Canning Factory of D. E. Foote, Castle Street, South of Aliceanna Street.



PECK'S RUN STORM-WATER DRAIN IN SMALLWOOD STREET, SOUTH OF FRANKLIN STREET, UNDER CONSTRUCTION.

This Drain Is Constructed of Reinforced Concrete and Brick and is 138 Inches Wide and 99 Inches High.

JENKINS' RUN STORM-WATER DRAIN.

Diversion Chamber Under Greenmount Avenue, South of North Avenue, Looking West. The Drain to the Left Is the New Drain Running South in Greenmount Avenue; that to the Right Is the Connection to the Old Carter Alley Drain.

Intersection of Springdale avenue and Thirteenth street.
Intersection of Springdale avenue and Fourteenth street.
Intersection of Guilford avenue and Twenty-fourth street.
Intersection of Barclay street and Twenty-fourth street.
Intersection of Barclay street and Twenty-third street.

Comments.

In regard to our storm-water and sanitary construction, the work of prosecuting contracts already let, designing and planning new contracts, and letting them, has been pushed forward in a very satisfactory manner.

Few people realize the magnitude of the work, the difficulties encountered, and the vast amount of details necessary to design and build two systems, one sanitary and one storm-water, covering such a large area, over hills and valleys, through narrow alleys filled with leaking sewers and surface drainage and lined by very old houses, whose foundations, in many cases, are only 18 inches below the surface of the ground; and at the same time to maintain these underground structures in operation, and keep the thoroughfares open, allowing pedestrian, vehicular and street car traffic to be maintained.

The designing and executing of a piece of work of this kind involves very great care on the part of everyone connected with it. There could hardly be better evidence of the efficiency of the engineers and inspectors than the fact that such a large amount of work of this kind has been done in one year, with but a small amount of complaint. In many of the cases reported it was found that there was no cause for complaint, as far as the Sewerage Commission's work was concerned.

Many thousands of dollars have been saved the City on account of the information placed on our contract drawings.

The tables and maps enclosed herewith describe more fully and in detail the work of the Commission.

By next year, the time originally stated, I hope to have under contract all of the work outlined in our original plans. However, on account of discounts and certain additional work imposed on us by the Legislature, our funds have been depleted to the extent that we will not be able to cover quite as much territory as originally contemplated.

The Commission, as well as myself, feel that the assistance of Mayor Preston has been of great aid to us in prosecuting our work.

Although my force is practically a new one from the one we started with, on account of men receiving better offers from other places, widely scattered, the present force is working as a unit and deserves great credit for their loyalty and untiring efforts.

Respectfully submitted,

CALVIN W. HENDRICK,
Chief Engineer.

ERRATUM.

The first part of line 1, page 22, should read "By year after next," instead of "By next year."

Flushing Water Tank
Fresh Water Tank
Administration Building
Meter House
Pump House
Pump House
Pump House
Hydrolitic Tanks
Control House
Sprinkling Filters
Hydro-electric
Power House
Settling Tanks
Sludge Drying Bed

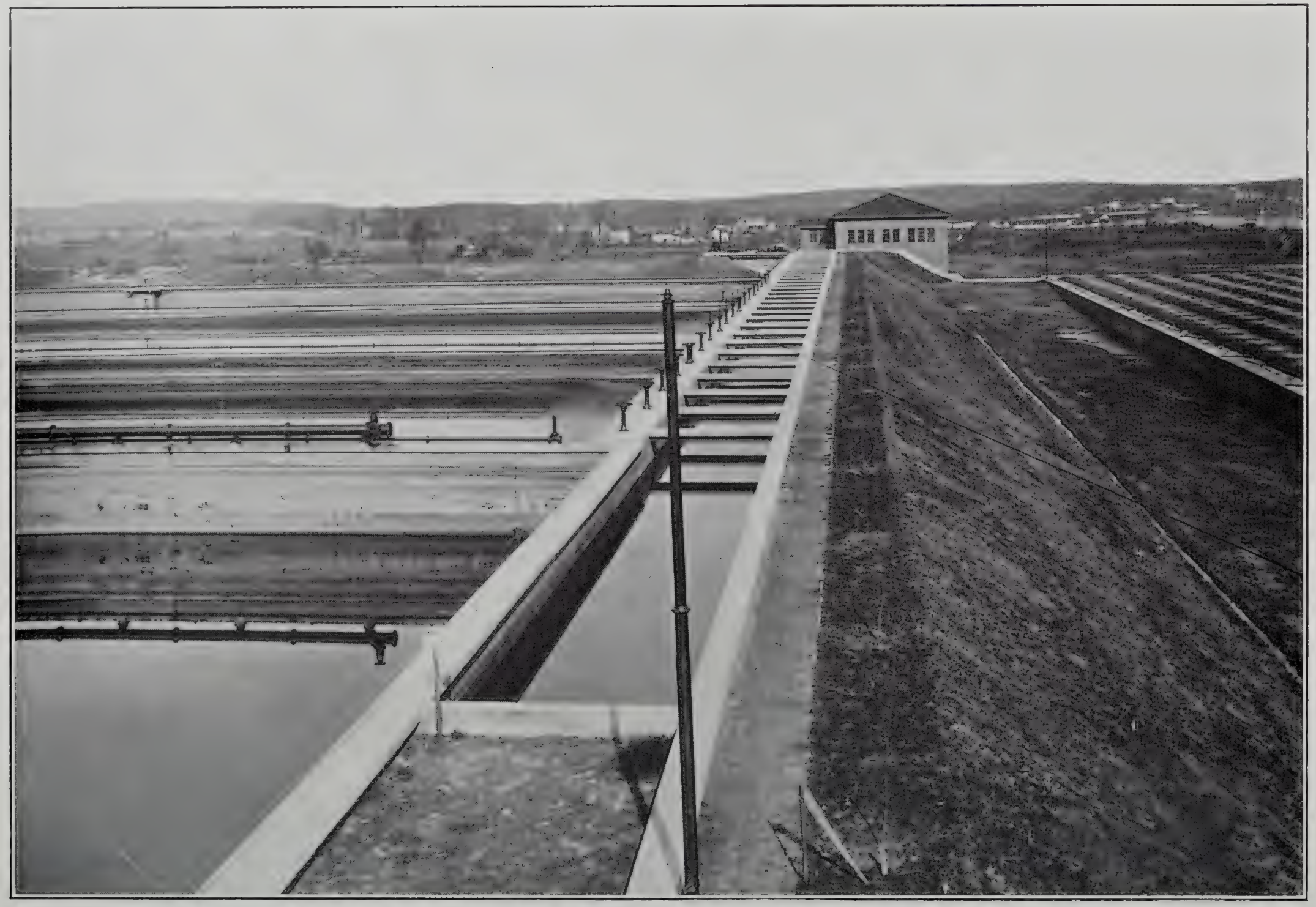
Copyright, 1913, by Fred W. Mueller
1511 Ashland Ave., Baltimore, Md.

Pump House
Sludge Digesting Tanks
Effluent Channel

PANORAMIC VIEW OF THE SEWAGE DISPOSAL PLANT

SEWAGE DISPOSAL WORKS.

Sludge-Digesting Tanks. Looking Toward Laboratory and Meter House.

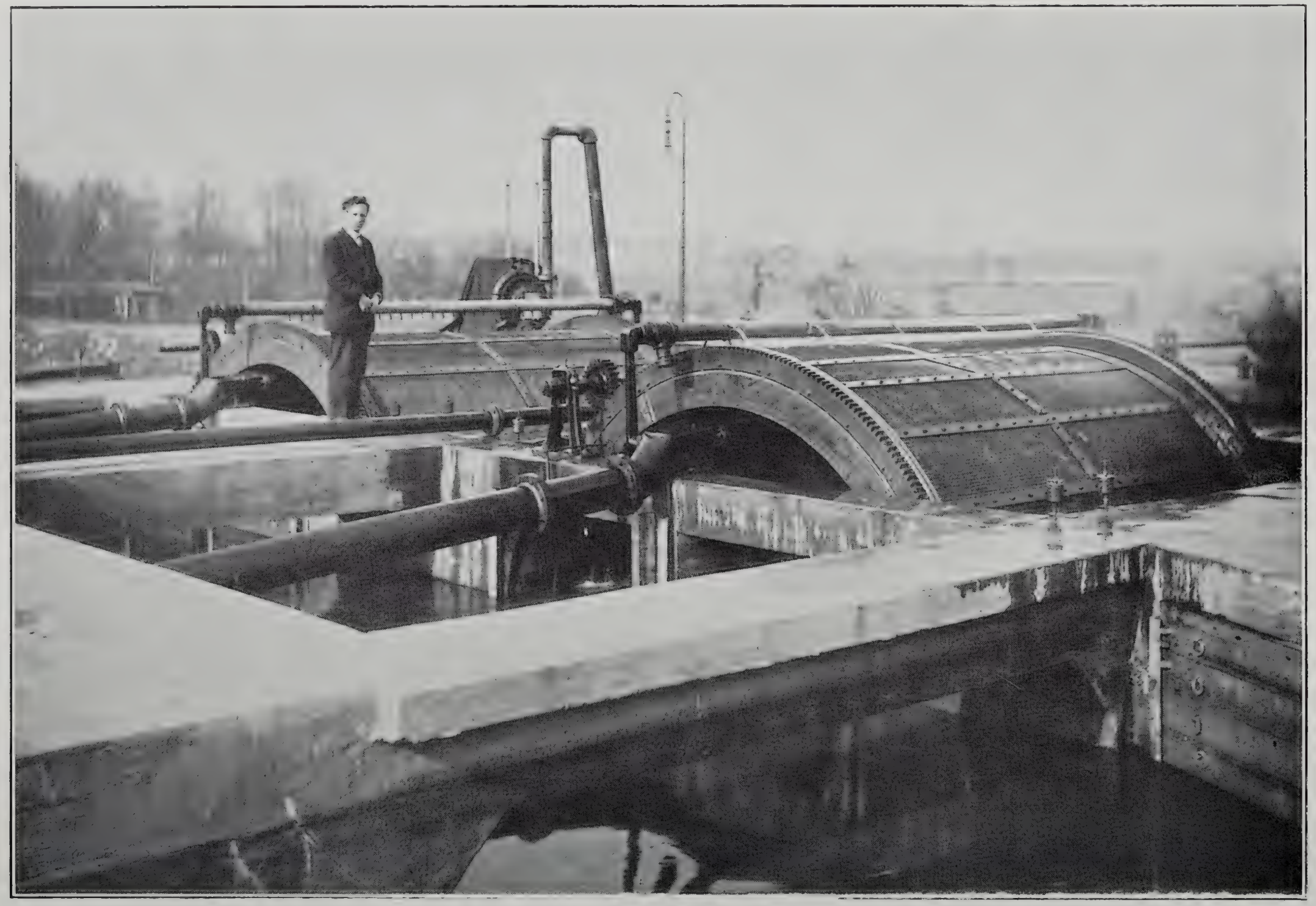


SEWAGE DISPOSAL WORKS.

Outlet Channel from Hydrolitic Tanks to Control House. One of the Sludge-Digesting Tanks Appears in the Lower Left-Hand Corner, with the Hydrolitic Tanks Beyond; the Control House Appears in the Centre, and the Sprinkling Filters at the Right.

SEWAGE DISPOSAL WORKS.

Cleaning Sludge out of Hydrolitic Tanks.

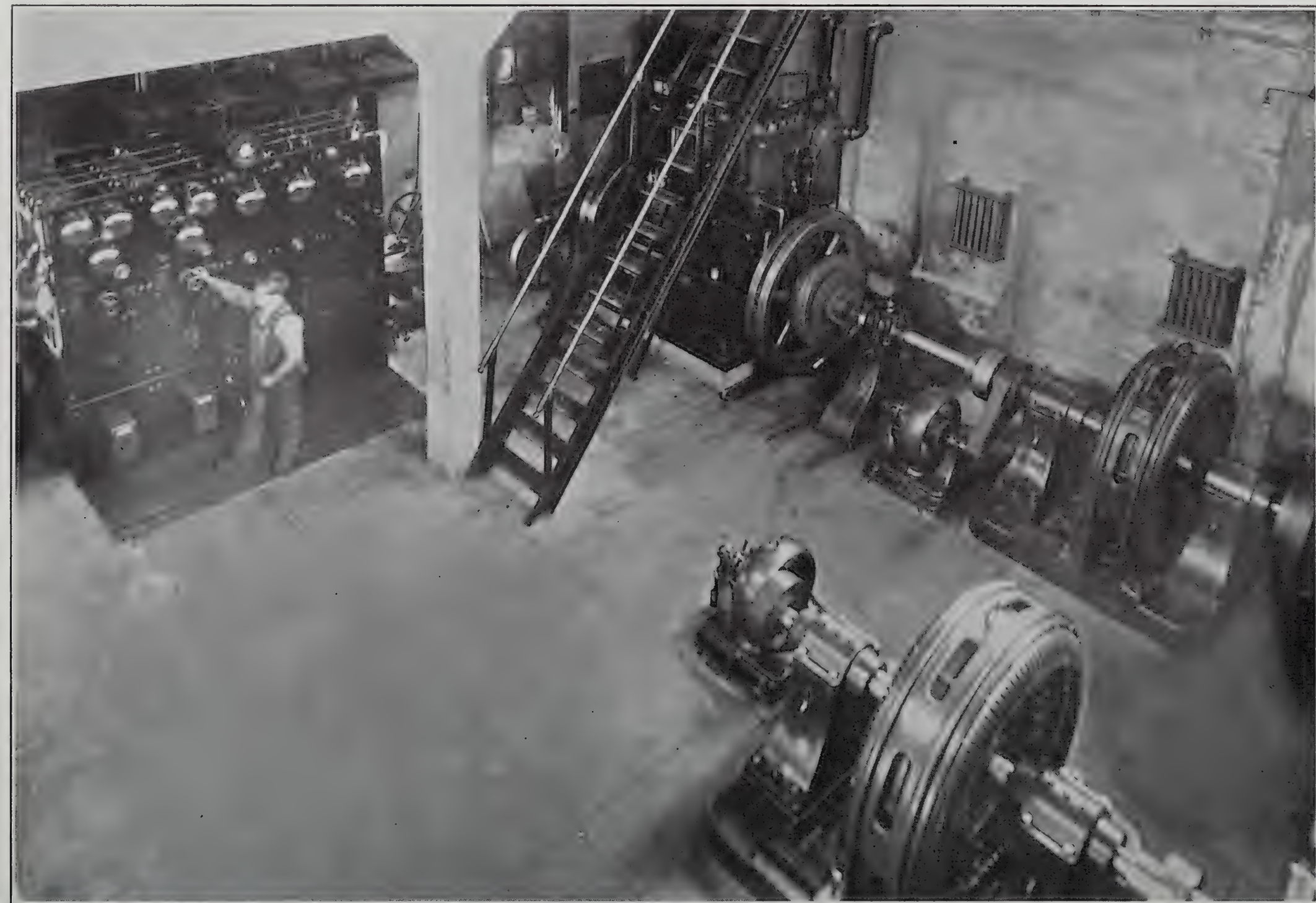


SEWAGE DISPOSAL WORKS.

Revolving Screens Between the Outlet Channel and the Control House. These Screens Are Covered with Wire Cloth Having Sixteen Hundred Meshes per Square Inch.

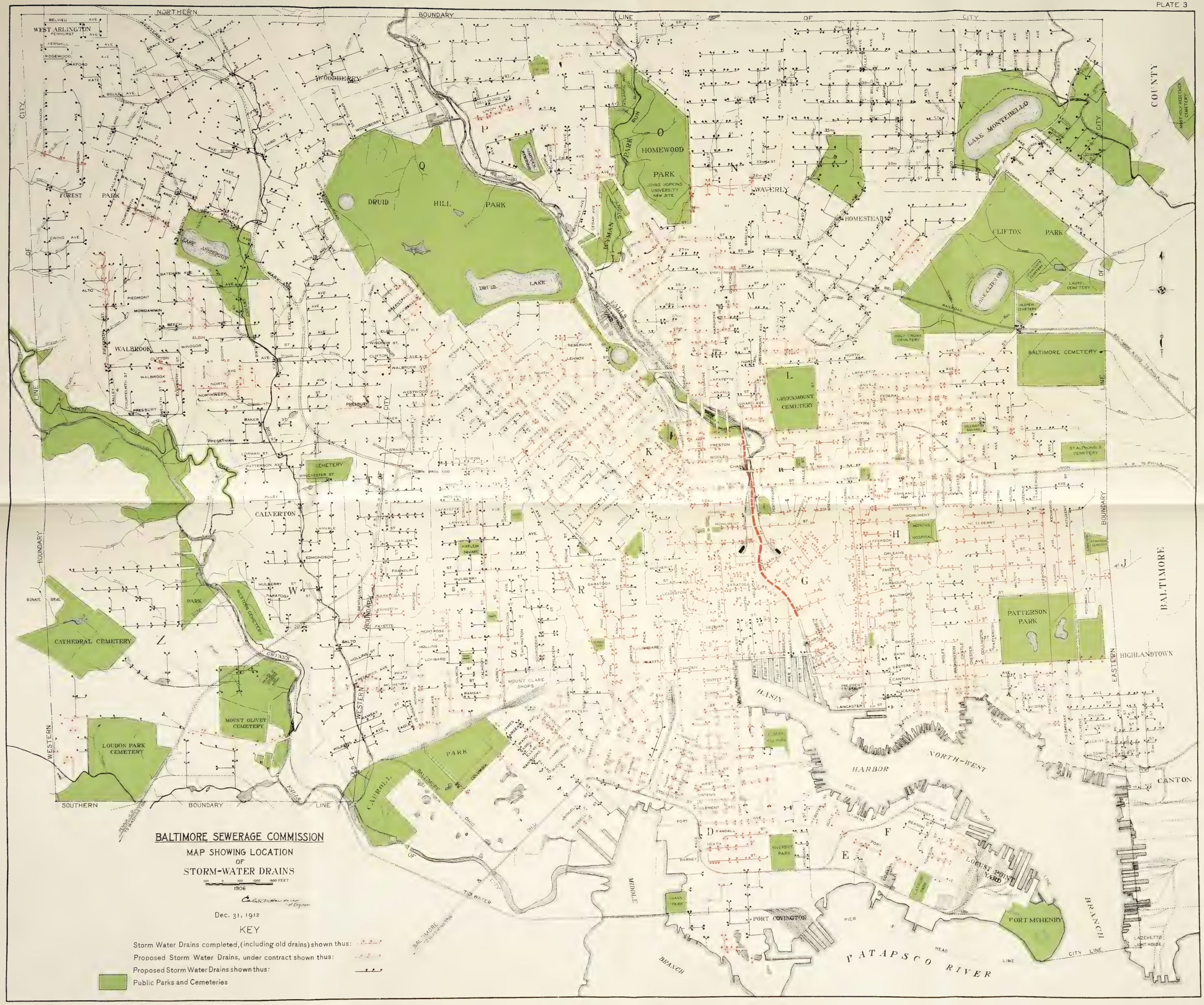
SEWAGE DISPOSAL WORKS.

Sprinkling Filters in Operation in Winter (February 7, 1912). Minimum Temperature, 28 Degrees.



SEWAGE DISPOSAL WORKS.

Interior of Power House, Showing Turbine-Driven Generators, Switch-Board, and Gasoline Engine for Emergency Use.


NORTHERN BOUNDARY LINE OF CITY
WEST ARLINGTON
WOODBERRY
FOREST PARK
DRUID HILL PARK
DRUID LAKE
LAKE ASHBURTON
HOMEWOOD PARK
JOHNS HOPKINS UNIVERSITY NEW SITE
WAVERLY
HOMESTEAD
LAKE MONTEBELLO
CLIFTON PARK
LAKE CLIFTON
LAUREL CEMETERY
HEBREW CEMETERY
HOLY CROSS CEMETERY
BALTIMORE CEMETERY
WEST HOLY REDEEMER CEMETERY
GREENMOUNT CEMETERY
ST ALPHONSUS CEMETERY
COLLINGTON SQUARE
HOPKINS HOSPITAL
PATTERSON PARK
WALBROOK
CALVERTON
CEMETERY
HARLEM SQUARE
CATHEDRAL CEMETERY
PARK
WESTERN CEMETERY
MOUNT OLIVET CEMETERY
LOUDON PARK CEMETERY
MOUNT CLARE SHOPS
PARK
BALTIMORE & COLUMBIA
CARROLL
SOUTHERN BOUNDARY LINE OF CITY
WESTERN BOUNDARY LINE OF CITY
EASTERN BOUNDARY LINE OF CITY
BALTIMORE
HIGHLANDTOWN
CANTON
NORTH-WEST HARBOR
FEDERAL HILL PARK
RIVERSIDE PARK
SWANN PARK
PORT COVINGTON
LOCUST POINT YARD
LAFAYETTE PARK
FORT McHENRY
LAZARETTO LIGHT HOUSE
PATAPSCO RIVER
MIDDLE BRANCH
TIDE WATER BASIN
BALTIMORE & WASHINGTON
BALTIMORE & OHIO
BALTIMORE & PHILA. RAILROAD
R.R. TO PHILA.
THREE MILE LINE
BONNIE BRAE
GWYNNS
BALTIMORE SEWERAGE COMMISSION
MAP SHOWING LOCATION OF STORM-WATER DRAINS
200 0 500 1000 1500 FEET
1906
Chief Engineer
Dec. 31, 1912
KEY
Storm Water Drains completed, (including old drains) shown thus:
Proposed Storm Water Drains, under contract shown thus:
Proposed Storm Water Drains shown thus:
Public Parks and Cemeteries

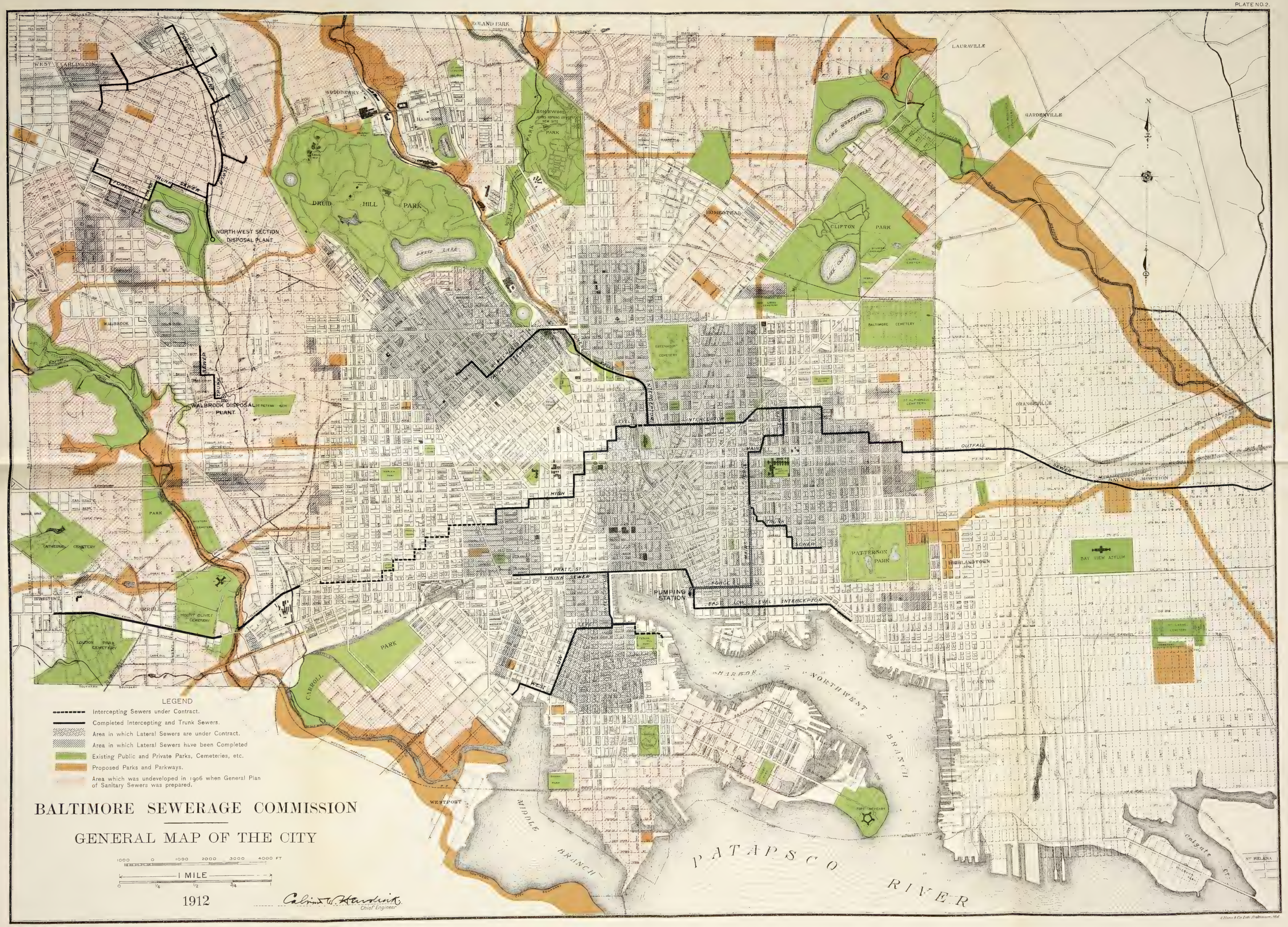

BALTIMORE SEWERAGE COMMISSION
GENERAL MAP OF THE CITY
1912
Chief Engineer
LEGEND
Intercepting Sewers under Contract.
Completed Intercepting and Trunk Sewers.
Area in which Lateral Sewers are under Contract.
Area in which Lateral Sewers have been Completed
Existing Public and Private Parks, Cemeteries, etc.
Proposed Parks and Parkways.
Area which was undeveloped in 1906 when General Plan of Sanitary Sewers was prepared.
1 MILE
NORTH-WEST SECTION DISPOSAL PLANT
WALBROOK DISPOSAL PLANT
DRUID HILL PARK
LAKE ROLAND
LAKE MONTEBELLO
LAKE CLIFTON
CLIFTON PARK
HOMESTEAD
WOODBERRY
HAMPDEN
ROLAND PARK
LAURAVILLE
GARDENVILLE
ORANGEVILLE
BAY VIEW ASYLUM
PATTERSON PARK
HIGHLANDTOWN
CANTON
PUMPING STATION
EAST LOW LEVEL INTERCEPTOR
WEST LOW LEVEL INTERCEPTOR
HIGH LEVEL INTERCEPTOR
MAIN SEWER
OUTFALL SEWER
BAY VIEW JUNCTION
TRUNK SEWER
PRATT ST.
HARBOR
NORTHWEST BRANCH
MIDDLE BRANCH
PATAPSCO RIVER
WESTPORT
CARROLLTON
CARROLL PARK
MOUNT OLIVET CEMETERY
LOUDON PARK CEMETERY
CATHEDRAL CEMETERY
WALBROOK
WEST ARLINGTON
FOREST PARK
GREENMOUNT CEMETERY
BALTIMORE CEMETERY
ST. MARY'S CEMETERY
ST. PHOTIUS CEMETERY
FORT McHENRY
ST. HELENA
Colgate Cr.
N
Calvert & Hardwick
J. Hoen & Co. Lith. Baltimore, Md.

TABLE No. 1.

PERSONNEL OF CHIEF ENGINEER'S STAFF.

Name.	Title.	Entered Service.	Remarks.
Albert M. Brosius	First Assistant	Jan. 2, 1906	Resigned February 16, 1912.
Thomas D. Pitts	First Assistant	June 4, 1906	Promoted from Division Engineer Mar. 1, 1912.
Oliver W. Connet	Division Engineer	Jan. 2, 1906	
Alfred H. Hartman	Division Engineer	Jan. 15, 1906	
H. C. McRae	Division Engineer	Jan. 21, 1907	Promoted from Asst. Div. Engr. July 1, 1912.
F. H. Cronin	Mechanical Engineer	May 9, 1911	
John J. Frederick	Secretary	Oct. 1, 1905	
J. Fletcher Apsey	Asst. Div. Engineer	Jan. 15, 1906	
W. A. Megraw	Asst. Div. Engineer	Dec. 3, 1906	
R. L. Burwell	Asst. Div. Engineer	June 24, 1907	
Elliott H. Burwell	Asst. Engineer "AA"	Jan. 15, 1906	Promoted from Asst. Engr. "A" Feb. 1, 1912.
Covington K. Allen	Asst. Engineer "AA"	June 1, 1907	Promoted from Asst. Engr. "A" Feb. 1, 1912.
Henry S. Shryock	Asst. Engineer "AA"	May 1, 1906	Promoted from Asst. Engr. "A" Mar. 1, 1912.
Arthur C. Toner	Asst. Engineer "AA"	Jan. 15, 1906	Promoted from Asst. Engr. "A" Feb. 1, 1912.
John J. Neal	Asst. Engineer "AA"	Nov. 9, 1906	Promoted from Inspector "A" Nov. 1, 1912.
Milton J. Ruark	Asst. Engineer "AA"	Jan. 22, 1912	Promoted from Inspector "A" Feb. 1, 1912.
F. W. McKinney	Asst. Engineer "AA"	Jan. 1, 1912	Promoted from Asst. Engr. "A" April 24, 1912.
Levin J. Houston, Jr.	Asst. Engineer "A"	Jan. 15, 1906	Resigned Jan. 15, 1912.
Thomas M. Ward	Asst. Engineer "A"	Nov. 16, 1911	Resigned Jan. 1, 1912.
Frank J. Parran	Asst. Engineer "A"	May 28, 1907	
Henry S. Regester	Asst. Engineer "A"	Jan. 15, 1906	Promoted from Asst. Engr. "B" Mar. 16, 1912.
Harry F. Schaefer	Asst. Engineer "A"	June 20, 1907	Promoted from Asst. Engr. "B" Mar. 1, 1912.
John Moore, Jr.	Asst. Engineer "A"	May 16, 1907	Promoted from Asst. Engr. "B" June 1, 1912.
William L. Williams	Asst. Engineer "A"	June 27, 1907	Promoted from Asst. Engr. "B" Feb. 1, 1912, resigned Mar. 2, 1912.

TABLE No. 1—*Continued.*

PERSONNEL OF CHIEF ENGINEER'S STAFF.

Name.	Title.	Entered Service.	Remarks.
Robert Rumbold.....	Asst. Engineer "A".....	Feb. 1, 1906..	Promoted from Asst. Engr. "B" June 1, 1912.
Gustav J. Requardt.....	Asst. Engineer "A".....	June 23, 1909..	Promoted from Asst. Engr. "B" June 1, 1912.
F. D. Christhilf.....	Asst. Engineer "A".....	July 7, 1909..	Promoted from Inspector "B" June 1, 1912.
Frank H. Firoved.....	Asst. Engineer "A".....	Jan. 23, 1906..	Promoted from Draftsman "A" Feb. 1, 1912.
J. Elmer Shepperd.....	Asst. Engineer "A".....	July 2, 1906..	Promoted from Draftsman "A" June 15, 1912.
C. Boone Sadler.....	Asst. Engineer "A".....	Aug. 1, 1907..	Promoted from Draftsman "A" July 1, 1912.
Edmund P. Burke.....	Asst. Engineer "A".....	Mar. 27, 1912..	Promoted from Inspector "C" June 1, 1912.
S. M. Klein.....	Asst. Engineer "A".....	Jan. 8, 1912..	Promoted from Asst. Engr. "B" Nov. 1, 1912.
Ralph Hutchins.....	Asst. Engineer "B".....	Feb. 1, 1906..	
J. H. Ensey.....	Asst. Engineer "B".....	Nov. 29, 1911..	
F. W. Caspari.....	Asst. Engineer "B".....	Feb. 1, 1906..	Resigned Nov. 9, 1912.
Joseph H. Straus, Jr....	Asst. Engineer "B".....	June 9, 1908..	Resigned Mar. 15, 1912.
J. Wightman Cleaveland	Asst. Engineer "B".....	Dec. 24, 1906..	
J. Milton Knight.....	Asst. Engineer "B".....	Aug. 4, 1908..	Promoted from Inspector "C" June 1, 1912.
J. Lee Chapman.....	Asst. Engineer "B".....	Nov. 15, 1911..	Promoted from Draftsman "C" April 1, 1912.
E. H. Brosius.....	Asst. Engineer "B".....	May 9, 1911..	Promoted from Draftsman "C" May 7, 1912; resigned July 1, 1912.
Leslie C. Frank.....	Asst. Engineer "B".....	July 25, 1911..	Promoted from Draftsman "C" to Rodman "A" Jan. 1, 1912; to Asst. Engr. "B" June 1, 1912; resigned Oct. 15, 1912.
G. Herman Carl.....	Asst. Engineer "B".....	Aug. 1, 1911..	Promoted from Draftsman "C" Feb. 1, 1912.
R. Taylor Tunstall.....	Asst. Engineer "B".....	Jan. 15, 1906..	Promoted from Rodman "A" to Inspector "C" May 16, 1912; to Asst. Engr. "B" June 1, 1912.
Isadore Behrman.....	Asst. Engineer "B".....	July 22, 1910..	Promoted from Rodman "A" Feb. 1, 1912; resigned April 23, 1912.

TABLE No. 1—*Continued.*

PERSONNEL OF CHIEF ENGINEER'S STAFF.

Name.	Title.	Entered Service.	Remarks.
Harry M. Webb	Asst. Engineer "B"	June 1, 1909	Promoted from Rodman "A" June 1, 1912.
J. S. Thompson, Jr.	Asst. Engineer "B"	Oct. 3, 1911	Promoted from Rodman "A" Dec. 15, 1912.
Paul Wroth	Asst. Engineer "B"	May 19, 1908	Promoted from Rodman "B" to Rodman "A" Feb. 1, 1912; to Asst. Engr. "B" May 16, 1912.
H. W. Johenning	Asst. Engineer "B"	June 24, 1908	Promoted from Rodman "B" to Rodman "A" Feb. 1, 1912; to Asst. Engr. "B" June 1, 1912.
J. M. Bandel	Asst. Engineer "B"	Mar. 18, 1912	Promoted from Inspector "C" June 16, 1912.
A. R. James	Asst. Engineer "B"	Apr. 10, 1912	Resigned April 16, 1912.
Irving P. Kane	Asst. Engineer "B"	May 22, 1912	
William D. Wrightson	Asst. Engineer "B"	May 16, 1912	Dropped July 20, 1912.
Edward F. Davis	Inspector "A"	Dec. 24, 1906	
Charles S. York	Inspector "A	Nov. 7, 1906	
John H. Sothoron	Inspector "A"	July 5, 1907	
Charles I. Hammond	Inspector "A"	Nov. 7, 1906	Promoted from Inspector "B" Feb. 1, 1912.
Aulbin D. Tapscott	Inspector "A"	Nov. 19, 1906	Promoted from Inspector "B" Feb. 1, 1912.
George T. Robinson	Inspector "A"	June 1, 1907	Promoted from Inspector "B Feb. 1, 1912.
Walter J. Caple	Inspector "A"	July 5, 1907	Promoted from Inspector "B" July 16, 1912.
Stephen A. Lusby	Inspector "B"	Apr. 6, 1907	
A. E. B. Jones	Inspector "B"	Jan. 15, 1906	Resigned June 15, 1912.
Henry A. Albert	Inspector "B"	June 1, 1907	Promoted from Inspector "C" May 1, 1912.
John F. Garrett	Inspector "B"	Nov. 16, 1906	Promoted from Inspector "C" Feb. 1, 1912.
Karl E. G. Kaufman	Inspector "B"	Jan. 15, 1906	Promoted from Inspector "C" June 1, 1912.
F. DeWolf Theobald	Inspector "B"	Aug. 9, 1907	Promoted from Inspector "C" Feb. 1, 1912.
John C. Strohm	Inspector "B"	Jan. 15, 1906	Promoted from Inspector "C" May 1, 1912.

TABLE No. 1—*Continued.*

PERSONNEL OF CHIEF ENGINEER'S STAFF.

Name.	Title.	Entered Service.	Remarks.
George E. Schaeffer....	Inspector "B".....	Aug. 11, 1908..	Promoted from Inspector "C" Feb. 1, 1912.
E. B. Richards.....	Inspector "B".....	Jan. 15, 1906..	Promoted from Inspector "C" Oct. 15, 1912.
J. H. Gambrell.....	Inspector "B".....	Jan. 15, 1906..	Promoted from Inspector "C" Oct. 15, 1912.
William H. Bell.....	Inspector "B".....	Dec. 19, 1906..	Resigned Nov. 15, 1910; reappointed Oct. 23, 1911.
William A. Brogden....	Inspector "C".....	Nov. 7, 1906..	Resigned Nov. 15, 1910; reappointed Oct. 10, 1911.
Henry Kelly.....	Inspector "C".....	July 17, 1907..	
J. Hamilton Davidson..	Inspector "C".....	Oct. 9, 1907..	Resigned Jan. 23, 1912.
A. S. Bartholomaei....	Inspector "C".....	Oct. 9, 1907..	
William J. Boyle.....	Inspector "C".....	Apr. 16, 1907..	Promoted from Rodman "A" July 1, 1912.
William Byrd	Inspector "C".....	June 1, 1907..	
George B. Roberts.....	Inspector "C".....	June 23, 1909..	Resigned April 15, 1911; reappointed April 1, 1912.
Martin W. Garrett....	Inspector "C".....	July 19, 1908..	
Lawrence H. Francis...	Inspector "C".....	Jan. 15, 1906..	
John Lynch.....	Inspector "C".....	June 1, 1909..	
John A. Holthaus.....	Inspector "C".....	Nov. 29, 1911..	Dropped Oct. 23, 1912.
H. Howard Williams....	Inspector "C".....	Sept. 21, 1906..	Resigned Feb. 15, 1912.
William F. Dolliver...	Inspector "C".....	July 7, 1909..	
Harry G. Maynard.....	Inspector "C".....	June 23, 1909..	
John Daugherty	Inspector "C".....	May 17, 1909..	
Herbert N. Chipchase...	Inspector "C".....	Nov. 1, 1911..	Promoted from Draftsman "C" July 1, 1912.
D. W. Glass.....	Inspector "C".....	Dec. 26, 1911..	Promoted from Draftsman "C" April 1, 1912.
William Wagner.....	Inspector "C".....	Jan. 15, 1906..	Promoted from Rodman "A" Feb. 1, 1912.

TABLE No. 1—*Continued.*

PERSONNEL OF CHIEF ENGINEER'S STAFF.

Name.	Title.	Entered Service.	Remarks.
Thomas W. Sasscer....	Inspector "C".....	May 20, 1908..	Promoted from Rodman "A" Oct. 15, 1912.
Harry N. Brannan.....	Inspector "C".....	Oct. 3, 1911..	Promoted from Rodman "A" Feb. 1, 1912; resigned May 1, 1912.
John T. Merritt.....	Inspector "C".....	Nov. 29, 1911..	Promoted from Rodman "B" Mar. 16, 1912.
W. K. Potter.....	Inspector "C".....	Oct. 3, 1911..	Promoted from Rodman "B" to Rodman "A" May 16, 1912; from Rodman "A" June 1, 1912.
W. H. Vickers.....	Inspector "C".....	Oct. 17, 1911..	Promoted from Rodman "B" June 16, 1912.
Stuart Anderson.....	Inspector "C".....	Feb. 5, 1912..	Promoted from Draftsman "C" May 16, 1912.
Brook G. Bird.....	Inspector "C".....	Mar. 7, 1912..	
Norman E. Brice.....	Inspector "C".....	Mar. 25, 1912..	
H. C. Brooks.....	Inspector "C".....	Oct. 16, 1912..	
A. J. Carey.....	Inspector "C".....	Mar. 14, 1912..	
Newell D. Chase.....	Inspector "C".....	Apr. 3, 1912..	
Louis Cremona.....	Inspector "C".....	May 1, 1912..	
H. R. Devilbiss.....	Inspector "C".....	May 8, 1912..	
L. N. Fisher.....	Inspector "C".....	June 17, 1912..	Promoted from Rodman "B" Oct. 15, 1912.
Alfred P. Gwynn.....	Inspector "C".....	Oct. 24, 1912..	
Thomas S. Hauch.....	Inspector "C".....	May 7, 1912..	
C. I. Haven.....	Inspector "C".....	June 17, 1912..	Promoted from Rodman "B" Oct. 15, 1912.
William E. Hearing....	Inspector "C".....	Mar. 14, 1912..	
George Kenly.....	Inspector "C".....	Oct. 3, 1912..	
L. F. Magness.....	Inspector "C".....	June 17, 1912..	Resigned Sept. 1, 1912.
E. W. Magruder.....	Inspector "C".....	June 13, 1912..	
J. B. Maguire.....	Inspector "C".....	Oct. 11, 1912..	
Vincent T. Malcolm....	Inspector "C".....	Apr. 24, 1912..	

TABLE No. 1—*Continued.*

PERSONNEL OF CHIEF ENGINEER'S STAFF.

Name.	Title.	Entered Service.	Remarks.
J. C. Marlatt	Inspector "C"	May 16, 1912	
R. E. L. Martin	Inspector "C"	Apr. 18, 1912	
L. E. Massey	Inspector "C"	Nov. 6, 1912	
H. F. Meyers, Jr.	Inspector "C"	May 1, 1912	Resigned June 5, 1912.
G. G. B. Nelson	Inspector "C"	Mar. 18, 1912	
J. Robert Owens	Inspector "C"	Apr. 15, 1912	
J. A. Reynolds	Inspector "C"	Oct. 17, 1912	
Joseph W. Rogers	Inspector "C"	Apr. 24, 1912	
H. T. Sasscer	Inspector "C"	June 6, 1912	
L. D. Sasscer	Inspector "C"	May 15, 1912	
Charles P. Schlarb	Inspector "C"	June 1, 1912	
John E. Sheridan	Inspector "C"	Feb. 16, 1912	Promoted from Draftsman "C" May 16, 1912.
M. J. Slingluff	Inspector "C"	Oct. 14, 1912	
Ballard R. Smith	Inspector "C"	June 1, 1912	
C. F. Tausky	Inspector "C"	Mar. 20, 1912	
Harvey Wagner	Inspector "C"	June 17, 1912	Resigned Nov. 1, 1912.
G. E. Warren	Inspector "C"	June 17, 1912	Promoted from Rodman "B" Oct. 15, 1912.
Claude R. Whitaker	Inspector "C"	Apr. 1, 1912	
W. S. Wicker	Inspector "C"	June 4, 1912	
L. B. Williams	Inspector "C"	Oct. 25, 1912	
Edwin J. Wolfe	Inspector "C"	June 1, 1912	
L. Chase Wright	Inspector "C"	June 17, 1912	Promoted from Rodman "A" Nov. 19, 1912.
Claude A. Murphy	Draftsman "A"	Jan. 15, 1906	
E. V. Hax	Draftsman "A"	Jan. 15, 1906	Resigned Aug. 1, 1912.
Maurice F. Rodgers	Draftsman "A"	Dec. 1, 1905	

TABLE No. 1—*Continued.*

PERSONNEL OF CHIEF ENGINEER'S STAFF.

Name.	Title.	Entered Service.	Remarks.
George W. Townsend..	Draftsman "A".....	Nov. 18, 1907..	Promoted from Draftsman "B" Feb. 1, 1912.
Clarence G. Harig.....	Draftsman "A".....	Apr. 20, 1908..	Promoted from Draftsman "B" Feb. 1, 1912.
Robert Dall, Jr.....	Draftsman "A".....	July 18, 1910..	Promoted from Draftsman "B" July 1, 1912.
Horace A. Browne.....	Draftsman "A".....	July 5, 1907..	Promoted from Inspector "C" Sept. 16, 1912.
Thomas D. Conn.....	Draftsman "C".....	Nov. 21, 1910..	
E. Edgar Wood.....	Draftsman "C".....	Oct. 3, 1911..	
Samuel Appleby.....	Draftsman "C".....	Aug. 1, 1911..	
E. B. Gilmour.....	Draftsman "C".....	June 12, 1911..	
C. F. Black.....	Draftsman "C".....	June 12, 1911..	
Alfred Betz.....	Draftsman "C".....	May 1, 1912..	
J. Arthur Clark.....	Draftsman "C".....	June 10, 1912..	
Albert Clunan.....	Draftsman "C".....	July 2, 1912..	Resigned July 15, 1912.
W. Graham Cole.....	Draftsman "C".....	June 3, 1912..	
W. Howard Corddry...	Draftsman "C".....	May 1, 1912..	
P. F. Davenport.....	Draftsman "C".....	Apr. 16, 1912..	
Carroll Edgar.....	Draftsman "C".....	Oct. 4, 1912..	
C. F. Flayhart.....	Draftsman "C".....	June 13, 1912..	
E. M. Hamilton.....	Draftsman "C".....	July 3, 1912..	
H. J. Horn.....	Draftsman "C".....	Oct. 4, 1912..	Resigned Oct. 21, 1912.
William L. Iardella.....	Draftsman "C".....	Mar. 3, 1911..	
Walter E. Lee.....	Draftsman "C".....	Dec. 9, 1912..	
M. W. Loving.....	Draftsman "C".....	June 25, 1912..	
D. H. Lucchessi, Jr.....	Draftsman "C".....	May 7, 1912..	
Samuel A. Mazer.....	Draftsman "C".....	June 3, 1912..	
Louis Z. Mearns.....	Draftsman "C".....	Feb. 16, 1912..	Died April 3, 1912.

TABLE No. 1—*Continued.*

PERSONNEL OF CHIEF ENGINEER'S STAFF.

Name.	Title.	Entered Service.	Remarks.
J. L. Miller	Draftsman "C"	Apr. 24, 1912	
W. K. Miller	Draftsman "C"	July 29, 1912	
George McLean	Draftsman "C"	May 1, 1912	Resigned Oct. 1, 1912.
Walter J. O'Neill	Draftsman "C"	Oct. 10, 1912	
C. L. Ofenstein	Draftsman "C"	Nov. 1, 1912	
Edwin A. Plitt	Draftsman "C"	Nov. 14, 1912	
Harry P. Poole	Draftsman "C"	May 16, 1912	
Leslie B. Pope	Draftsman "C"	Apr. 3, 1912	
Richard J. Reese	Draftsman "C"	Sept. 25, 1912	
William C. Runge	Draftsman "C"	Oct. 21, 1912	
Herman A. Schneider	Draftsman "C"	Apr. 12, 1912	
A. L. Shalowitz	Draftsman "C"	Oct. 1, 1912	
John K. Siems	Draftsman "C"	Nov. 11, 1912	
William H. Siems	Draftsman "C"	May 7, 1912	
Julius O. Siegfield	Draftsman "C"	Apr. 18, 1912	
J. F. Diggs	Rodman "A"	Oct. 3, 1911	Transferred from Draftsman "C" Nov. 1, 1912.
William A. Twamley	Rodman "A"	Dec. 4, 1911	Promoted from Draftsman "C" June 16, 1912.
Dudley G. Frazer	Rodman "A"	Aug. 1, 1911	Transferred from Draftsman "C" April 1, 1912.
William J. Frere, Jr.	Rodman "A"	June 6, 1911	Transferred from Draftsman "C" to Rodman "B" March 5, promoted from Rodman "B" April 1, 1912.
L. Carroll Miller	Rodman "A"	Jan. 25, 1906	
Wilford H. Herbert	Rodman "A"	July 16, 1906	
C. J. Hellen	Rodman "A"	June 12, 1911	Promoted from Rodman "B" Mar. 16, 1912.
William C. Briscoe	Rodman "A"	Nov. 16, 1909	Promoted from Rodman "B" July 1, 1912.

TABLE No. 1—*Continued.*

PERSONNEL OF CHIEF ENGINEER'S STAFF.

Name.	Title.	Entered Service.	Remarks.
Owen Laws	Rodman "A"	June 3, 1912	Promoted from Rodman "B" Oct. 15, 1912.
C. F. Martin	Rodman "A"	May 13, 1912	
Edwin H. Nordman	Rodman "A"	Apr. 17, 1912	
John T. Rooney	Rodman "A"	July 1, 1912	Promoted from Rodman "B" Sept. 16, 1912.
Charles W. Rose	Rodman "A"	Oct. 14, 1912	
T. R. Schoonmaker	Rodman "A"	June 26, 1912	Promoted from Rodman "B" Dec. 15, 1912.
Bradley H. Waltz	Rodman "A"	Apr. 19, 1912	Resigned Sept. 1, 1912.
A. H. Wernsdorfer	Rodman "A"	Mar. 18, 1912	Promoted from Rodman "B" May 16, 1912.
Wm. B. O'Connor, Jr.	Rodman "B"	Oct. 17, 1911	Promoted from Draftsman "C" Mar. 1, 1912.
Charles H. Brooks	Rodman "B"	Nov. 16, 1907	
Conrad F. Kraeter	Rodman "B"	Sept. 20, 1906	
C. G. Walker	Rodman "B"	Dec. 1, 1911	
A. T. Hilton	Rodman "B"	Oct. 3, 1911	
J. P. Joynes	Rodman "B"	June 12, 1911	
Alan F. Bristor	Rodman "B"	Oct. 10, 1912	
Chauncey Brooks	Rodman "B"	Apr. 24, 1912	
C. D. Cann	Rodman "B"	June 14, 1912	
James A. Cullen	Rodman "B"	May 1, 1912	Resigned Oct. 21, 1912.
M. E. Gerlach	Rodman "B"	May 28, 1912	
Ray F. Gildea	Rodman "B"	Aug. 1, 1912	
E. Bernard Green	Rodman "B"	Apr. 10, 1912	
H. Reid Treiber	Rodman "B"	Feb. 5, 1912	
S. T. W. Green	Rodman "B"	Jan. 2, 1912	Promoted from Draftsman "C" July 1, 1912.
C. W. Hook	Rodman "B"	Apr. 4, 1912	
E. H. Howard	Rodman "B"	Mar. 6, 1912	

TABLE No. 1—*Continued.*

PERSONNEL OF CHIEF ENGINEER'S STAFF.

Name.	Title.	Entered Service.	Remarks.
F. L. Maier	Rodman "B"	June 24, 1912	
M. H. Melvin	Rodman "B"	June 27, 1912	
Jos. P. McCafferty	Rodman "B"	June 24, 1912	
James H. McCay	Rodman "B"	Mar. 14, 1912	
Robert Piggott	Rodman "B"	Mar. 18, 1912	
William T. Snyder	Rodman "B"	Mar. 28, 1912	
Thomas G. Stowe	Rodman "B"	Feb. 19, 1912	Promoted from Clerk Sept. 16, 1912.
Guy C. Sykes	Rodman "B"	May 22, 1912	
E. S. Trine	Rodman "B"	Nov. 14, 1912	
Otis G. Wilbur	Rodman "B"	Nov. 18, 1912	
Oscar R. Willey	Rodman "B"	May 27, 1912	
Henri H. Smith	Rodman "B"	Aug. 18, 1910	Promoted from Clerk Mar. 1; resigned May 1, 1912.
George J. Armeling	Chemist	Aug. 8, 1907	Promoted from Asst. Chemist Feb. 1, 1912.
H. R. Gundlach	Bacteriologist	Nov. 1, 1911	Resigned June 1, 1912.
Urban Preller	Laboratory Assistant	June 1, 1912	
H. N. O'Brien	Supt. Day Labor	Oct. 11, 1907	Promoted from Draftsman "C" to Inspector "C" Mar. 1; promoted from Inspector "C" Nov. 1, 1912.
Adam W. Gerlach	Stenographer "A"	June 16, 1909	
Cloyd S. Weaver	Stenographer "A"	Jan. 2, 1912	Promoted from Stenographer "B" June 15, 1912.
W. L. Prout	Stenographer "A"	Apr. 5, 1911	Promoted from Stenographer "B" May 16, 1912.
J. L. Pennington	Stenographer "B"	July 23, 1909	

TABLE No. 1—*Concluded.*

PERSONNEL OF CHIEF ENGINEER'S STAFF.

Name.	Title.	Entered Service.	Remarks.
F. W. Ensey	Stenographer "B"	Apr. 11, 1911	Resigned Jan. 6, 1912.
George F. Bayliss	Stenographer "B"	Feb. 5, 1912	
Leo Hogan	Stenographer "B"	June 1, 1912	Resigned Oct. 1, 1912.
Edison M. Hughes	Stenographer "B"	Feb. 1, 1912	
S. Robert Martin	Stenographer "B"	Feb. 19, 1912	
George W. Schiminger	Stenographer "B"	Oct. 11, 1912	
Robert F. Windfohr	Stenographer "B"	Oct. 28, 1912	
M. H. Frank	File Clerk	Jan. 25, 1912	
William C. Higgins	Clerk	Oct. 3, 1912	

TABLE No. 2.

STATEMENT OF CONTRACTS LET PRIOR TO 1912.

Contract.	Date of Contract.	Name of Contractor.	Proportion of Work Completed December 31, 1912.
Wash Borings No. 1	July 2, 1906.	B. F. Smith & Bro.	Completed July 28, 1906.
Testing Plant	Oct. 17, 1906.	Malcolm W. Hill Co.	Completed July 1, 1907.
Laboratory	Oct. 18, 1906.	Wm. Kirkpatrick	Completed Feb. 1, 1907.
Storm Water No. 1	Oct. 18, 1906.	M. A. Talbott Co.	Completed April 14, 1908.
Sanitary Sewers—Walbrook	Oct. 29, 1906.	M. A. Talbott Co.	Completed June 27, 1907.
Outfall Sewer, Section No. 1	Dec. 7, 1906.	M. A. Talbott Co.	Completed August 1, 1909.
Outfall Sewer, Section No. 2	Dec. 7, 1906.	M. A. Talbott Co.	Completed August 6, 1908.
Sewage Pumping Plant Mach'y.	Dec. 12, 1906.	Bethlehem Steel Co.	99 per cent.
West Low Level Interceptor, Section No. 1	May 1, 1907.	Metropolitan Contr. Co.	Completed March 26, 1908.
West Low Level Interceptor, Section No. 2	May 1, 1907.	Metropolitan Contr. Co.	Completed March 26, 1908.
Outfall Sewer, Section No. 3	May 4, 1907.	J. Connelly Const. Co.	Completed June 7, 1909.
Outfall Sewer, Section No. 7	May 4, 1907.	J. Connelly Const. Co.	Completed Dec. 19, 1908.
Outfall Sewer, Section No. 8	May 4, 1907.	J. Connelly Const. Co.	Completed Nov. 1, 1908.
Outfall Sewer, Section No. 9	May 4, 1907.	A. F. Helm	Completed Oct. 13, 1908.
Outfall Sewer, Section No. 6	May 28, 1907.	David Peoples	Completed Oct. 16, 1908.
Storm-Water No. 2	May 28, 1907.	David Peoples	Completed May 11, 1909.
Storm-Water No. 3	May 28, 1907.	David Peoples	Completed May 15, 1909.
High Level Interceptor, Section No. 1	May 29, 1907.	M. A. Talbott Co.	Completed Nov. 5, 1908.
High Level Interceptor, Section No. 2	May 29, 1907.	M. A. Talbott Co.	Completed May 1, 1909.

TABLE No. 2—*Continued.*

STATEMENT OF CONTRACTS LET PRIOR TO 1912.

Contract.	Date of Contract.	Name of Contractor.	Proportion of Work Completed December 31, 1912.
Outfall Sewer, Section No. 4..	May 29, 1907.	M. A. Talbott Co.....	Completed March 17, 1909.
Outfall Sewer, Section No. 5..	May 29, 1907.	M. A. Talbott Co.....	Completed August 1, 1909.
Outfall Sewer, Section No. 10.	June 10, 1907.	J. Connelly Const. Co....	Completed Nov. 1, 1908.
	Note.—This contract was first awarded to J. Erwin Hillpot, but he was unable to furnish satisfactory bond and the contract was reawarded to the J. Connelly Construction Company, the next lowest bidder.		
Sewage Disposal Plant, Clearing and Grubbing Disposal Area	July 8, 1907.	Lane Bros. Co. & Jones..	Completed Sept. 1, 1909.
	Note.—This contract was awarded on April 24 to J. Erwin Hillpot, but he was unable to furnish a satisfactory bond and the work was readvertised.		
Digging Test Well on site of Sewage Pumping Station....	July 29, 1907.	Metropolitan Contr. Co.	Completed August 27, 1907.

TABLE No. 2—*Continued.*

STATEMENT OF CONTRACTS LET PRIOR TO 1912.

Contract.	Date of Contract.	Name of Contractor.	Proportion of Work Completed December 31, 1912.
West Low Level Interceptor, Section No. 3	Feb. 28, 1908.	Metropolitan Contr. Co.	Completed Oct. 30, 1908.
East Low Level Interceptor, Section No. 1	May 8, 1908.	T. J. O'Connell	Completed May 15, 1909.
East Low Level Interceptor, Section No. 2	May 8, 1908.	T. J. O'Connell	Completed May 15, 1909.
Grading Manderson lot	May 8, 1908.	Gustavus Heckel	Completed June 29, 1908.
Sewage Pumping Station, Superstructure	May 9, 1908.	Noel Construction Co.	99 per cent.
Sewage Pumping Station, Substructure	May 9, 1908.	Noel Construction Co.	Completed August 1, 1911.
Storm Water Contract No. 4	June 17, 1908.	Reilly & Riddle	Completed March 16, 1909.
Roadway, Willis avenue	Aug. 7, 1908.	L. B. McCabe	Completed Nov. 30, 1908.
Storm Water Contract No. 5	Sept. 17, 1908.	David Peoples	Completed Jan. 23, 1909.
Roadways on Baltimore Brick Company's property	Sept. 28, 1908.	Thos. Mullan	Completed Dec. 7, 1908.
West Low Level Interceptor, Section No. 4	Oct. 28, 1908.	Metropolitan Contr. Co.	Completed July 10, 1909.
Force Main	Nov. 2, 1908.	Warren F. Brenizer Co.	Completed Oct. 12, 1909.
Force Main Sewer	Nov. 4, 1908.	Ryan & Reilly	Completed Sept. 30, 1909.
Sewage Disposal Plant	Nov. 4, 1908.	New York Continental Jewell Filtration Co.	Completed Dec. 23, 1910.
Storm Water Contract No. 6	Dec. 31, 1908.	Booth & Flinn	Completed Jan. 28, 1910.

TABLE No. 2—*Continued.*

STATEMENT OF CONTRACTS LET PRIOR TO 1912.

Contract.	Date of Contract.	Name of Contractor.	Proportion of Work Completed December 31, 1912.
Filter Stone for Sewage Disposal Plant.....	Dec. 31, 1908.	Fisher & Carozza.....	Completed June 1, 1911.
Sanitary Contract No. 35, Lateral Sewers, District No. 26.	Mar. 6, 1909.	T. Wallace Reilly.....	Completed Oct. 7, 1909.
Sanitary Contract No. 37, Sewage Disposal Plant, water Tanks and Tower.....	Feb. 19, 1909.	Horace E. Horton (Chicago Bridge and Iron Works).....	Completed Sept. 1, 1909.
Sanitary Contract No. 38, Lateral Sewers, District No. 28.	April 19, 1909.	Ryan & Reilly.....	Completed Nov. 10, 1909.
Sanitary Contract No. 39, Lateral Sewers, District No. 30.	April 15, 1909.	James Ferry & Sons....	Completed Sept. 25, 1909.
Sanitary Contract No. 40, Forest Park Sewage Disposal Works.....	Sept. 15, 1909.	Lane Bros. Co. & Jones.	Completed Oct. 25, 1910.
Sanitary Contract No. 41, Trunk Sewers, District No. 48	Sept. 10, 1909.	T. Wallace Reilly.....	Contract abandoned June 15, 1910. 72% of work completed.
Sanitary Contract No. 42, Jones Falls Interceptor, Section No. 1	Sept. 22, 1909.	M. A. Talbott Co.....	Completed Oct. 15, 1910.
Sanitary Contract No. 43, Lateral Sewers, District No. 29.	Sept. 11, 1909.	Wm. McCarthy & Co...	Completed April 25, 1910.

TABLE No. 2—*Continued.*

STATEMENT OF CONTRACTS LET PRIOR TO 1912.

Contract.	Date of Contract.	Name of Contractor.	Proportion of Work Completed December 31, 1912.
Sanitary Contract No. 44, Lateral Sewers, District No. 21.	Dec. 18, 1909.	David Peoples.....	Completed Aug. 15, 1910.
Sanitary Contract No. 45, Lateral Sewers, District No. 27.	Dec. 18, 1909.	David Peoples.....	Completed Aug. 8, 1910.
Storm Water Contract No. 7..	June 2, 1909.	Wm. McCarthy & Co...	Completed Dec. 31. 1909.
Storm Water Contract No. 8..	Sept. 11, 1909.	M. O'Herron & Co.....	Completed Dec. 31. 1909.
Sanitary Contract No. 46, Power-house, Pump House and Land Conduits, Sewage Disposal Plant.....	Feb. 21, 1910.	Ryan & Reilly.....	Completed April 1, 1911.
Sanitary Contract No. 47, Underwater Discharge Conduits, Sewage Disposal Plant.	Mar. 10, 1910.	B. F. Sweeten & Son..	Completed Dec. 2, 1911.
Sanitary Contract No. 48, Lateral Sewers, District 19-B..	Feb. 28, 1910.	Irwin Brothers.....	Completed Oct. 15, 1910.
Sanitary Contract No. 49, Lateral Sewers, District No. 35..	Feb. 28, 1910.	Irwin Brothers.....	Completed Aug. 12, 1910.
Sanitary Contract No. 50, Jones Falls Interceptor, Section No. 2.....	May 20, 1910.	United Engineering & Construction Co.....	Completed May 18, 1911.
Sanitary Contract No. 51, Electrical and Mechanical Equipment, Sewage Disposal Plant.	May 21, 1910.	McCay Engineering Co.	Completed Feb. 20, 1912.

TABLE No. 2—*Continued.*

STATEMENT OF CONTRACTS LET PRIOR TO 1912.

Contract.	Date of Contract.	Name of Contractor.	Proportion of Work Completed December 31, 1912.
Sanitary Contract No. 52, Lateral Sewers, District No. 19-A, etc.	June 9, 1910.	Wm. McCarthy & Co.	Completed Jan. 16, 1911.
Sanitary Contract No. 53, Lateral Sewers, District No. 25, etc.	June 23, 1910.	D. V. Ault & Co.	Completed Dec. 7, 1910.
Sanitary Contract No. 54, Trunk Sewers, District No. 48*	July 28, 1910.	W. H. & C. F. Thompson	Completed Mar. 10, 1911.
Sanitary Contract No. 55, Lateral Sewers, District No. 14.	Sept. 16, 1910.	B. F. Sweeten & Son	Completed April 12, 1911.
Sanitary Contract No. 56, Coal and Ash Conveying Plant, Sewage Pumping Station	Sept. 20, 1910.	Dietz Engineering Co.	95 per cent.
Sanitary Contract No. 57, Lateral Sewers, District No. 34-A	Nov. 10, 1910.	Whiting-Middleton Construction Co.	Completed July 14, 1911.
Sanitary Contract No. 58, McMechen Street Interceptor	Nov. 23, 1910.	McCay Engineering Co.	Completed April 3, 1911.
Sanitary Contract No. 59, Electric Wiring, Sewage Pumping Station	Dec. 16, 1910.	Central Electric Co.	Completed June 26, 1912.
Storm Water Contract No. 9	Mar. 26, 1910.	David Peoples	Completed June 27, 1911.
Storm Water Contract No. 10	July 29, 1910.	George F. Beavin	Completed Dec. 24, 1910.

*Completion of work originally included in Contract No. 41.

TABLE No. 2—*Continued.*

STATEMENT OF CONTRACTS LET PRIOR TO 1912.

Contract.	Date of Contract.	Name of Contractor.	Proportion of Work Completed December 31, 1912.
Sanitary Contract No. 60, Sewage Disposal Plant Laboratory Building	June 3, 1911.	D. M. Andrew Co.	Completed April 1, 1912.
Sanitary Contract No. 61, Lateral Sewers, District No. 40-C	Jan. 10, 1911.	B. F. Sweeten & Son	Completed Nov. 1, 1911.
Sanitary Contract No. 62, Pratt Street Trunk Sewer	Mar. 9, 1911.	McCay Engineering Co.	Completed Dec. 18, 1911.
Sanitary Contract No. 63, Lateral Sewers, District No. 15	Mar. 11, 1911.	Wm. McCarthy & Co.	Completed Nov. 2, 1911.
Sanitary Contract No. 64, Sewage Pumping Station, Water-piping and Steam Heating	Mar. 6, 1911.	Wanner Steam and Hot Water Heating Co.	Completed Mar. 31, 1912.
Sanitary Contract No. 65 Sewage Disposal Plant, Sewage Screens	.....	.....	Bids rejected.
Sanitary Contract No. 66 Lateral Sewers, District No. 36-A	June 15, 1911.	B. F. Sweeten & Son	Completed Mar. 1, 1912.
Sanitary Contract No. 67, Sewage Pumping Station, Junction of Sewer	June 8, 1911.	Martin J. Beach	Completed Dec. 30, 1911.
Sanitary Contract No. 68, Sewage Disposal Plant, Nozzles for Sprinkling Filters	Aug. 21, 1911.	Merritt & Co.	Completed Jan. 10, 1912.

TABLE No. 2—*Continued.*

STATEMENT OF CONTRACTS LET PRIOR TO 1912.

Contract.	Date of Contract.	Name of Contractor.	Proportion of Work Completed December 31, 1912.
Sanitary Contract No. 69, Fixed Screens at Sewage Disposal Works and Sewage Pumping Station	July 27, 1911.	H. S. Roberts	Completed Feb. 20, 1912.
Sanitary Contract No. 70, Sewage Disposal Plant, Pier over Discharge Pipes	.....	.....	Withdrawn.
Sanitary Contract No. 71, Lateral Sewer in Alley west of Park Heights Avenue, north of Fifth Avenue	Aug. 9, 1911.	G. R. Abbott	Completed Sept. 30, 1911.
Sanitary Contract No. 72, Sewage Pumping Plant, Discharge Piping and Valves	Aug. 17, 1911.	B. F. Sweeten & Son	Completed Nov. 1, 1912.
Sanitary Contract No. 73, Sewage Pumping Station, Electric Generators and Switchboard	Sept. 18, 1911.	Thos. C. Basshor Co.	75 per cent.
Sanitary Contract No. 74, Lateral Sewers, District No. 20-B	Sept. 22, 1911.	B. F. Sweeten & Son	99 per cent.
Sanitary Contract No. 75, High Level Interceptor, Section No. 4	Sept. 25, 1911.	W. H. & C. F. Thompson	93 per cent.

TABLE No. 2—*Concluded.*

STATEMENT OF CONTRACTS LET PRIOR TO 1912.

Contract.	Date of Contract.	Name of Contractor.	Proportion of Work Completed December 31, 1912.
Sanitary Contract No. 76, Lateral Sewer in Alley east of Park Heights Avenue, between Third and Fifth Avenues	Sept. 25, 1911.	W. H. & C. F. Thompson	Completed Nov. 3, 1911.
Sanitary Contract No. 77, Sewage Disposal Plant, Revolving Screens	Nov. 10, 1911.	D'Olier Engineering Co.	Completed April 30, 1912.
Storm Water Contract No. 11.	Jan. 13, 1911.	Wm. McCarthy & Co.	Completed May 4, 1911.
Storm Water Contract No. 12.	Mar. 30, 1911.	C. B. Clark & Co.	Completed April 10, 1912.
Storm Water Contract No. 13.	Sept. 22, 1911.	Ryan & Reilly	95 per cent.
Storm Water Contract No. 14, Jones Falls Conduits, Section No. 1	July 10, 1911.	M. M. Elkan	80 per cent.
Storm Water Contract No. 15.	Sept. 9, 1911.	Martin J. Beach	Completed Nov. 2, 1911.
Storm Water Contract No. 16, Jones Falls Conduits, Section No. 2	Nov. 6, 1911.	Fisher & Carozza	23 per cent.

TABLE No. 3.

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 78, Lateral Sewers, District No. 20-A.	Wm. McCarthy & Co.	Jan. 3, 1912	29,500 lin. ft. 8″ sewer. 3,250 lin. ft. 10″ sewer. 1,100 lin. ft. 12″ sewer. 625 lin. ft. 15″ sewer. 800 lin. ft. 18″ sewer. 500 lin. ft. 22″ sewer. 310 lin. ft. 24″ sewer. 1,575 lin. ft. 27″ sewer. 25 cub. yds. excavation below sub-grade. 20 cub. yds. excavation in rock. 10 cub. yds. brick masonry. 30 cub. yds. concrete masonry. 5,500 lin. ft. 4″ and 6″ underdrain. 812 M. ft. B. M. sheeting, shoring, etc. 2,211 lin. ft. manholes. 220 manhole frames and covers. 1,750 manhole steps. 53 drop connections. 35,000 lin. ft. excavation for house-connections. 35,225 lin. ft. house-connections. 2,505 branches. 17 lamphole frames and covers. 1,100 lin. ft. W. I. pipe from manholes to water mains. 4,000 sq. ft. granolithic pavement relaid. 13,500 lin. ft vitrified block and other pavement relaid.	$121,452.00	$135,226.00	Completed Nov. 19, 1912.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 79, Sanitary Sewers in Frederick Road.	Martin J. Beach	Feb. 16, 1912	6,050 lin. ft. 8″ sewer. 2,950 lin. ft. 10″ sewer. 1,900 lin. ft. 12″ sewer. 50 lin. ft. 15″ sewer. 2,000 cub. yds. excavation in rock. 15 cub. yds. concrete masonry. 3,000 lin. ft. 4″ and 6″ underdrain. 200 M. ft. B. M. sheeting, shoring, etc. 640 lin. ft. manholes. 54 manhole frames and covers. 42 manhole steps. 14 drop connections. 4,000 lin. ft. excavation for house-connections. 4,390 lin. ft. vitrified pipe and cast-iron pipe house-connections. 505 branches.	$35,527.10	$37,639.35	Completed Aug. 11, 1912.
Sanitary Contract No. 80, Lateral Sewers at Bay View Asylum.	Bond & Bates.	Feb. 2, 1912	460 lin. ft. 8″ sewer. 1,525 lin. ft. 10″ sewer. 2,250 lin. ft. 12″ sewer. 25 cub. yds. excavation below sub-grade. 50 cub. yds. excavation in rock. 10 cub. yds. brick masonry. 70 cub. yds. concrete masonry. 700 lin. ft. 4″ and 6″ underdrain. 57 M. ft. B. M. sheeting, shoring, etc. 240 lin. ft. of manholes. 15 manhole frames and covers. 200 manhole steps. 20 branches	$15,917.95	$19,202.95	Completed Sept. 10, 1912.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 81, High Level Interceptor, Section No. 5.	Ryan & Reilly.	Feb. 23, 1912	14,500 cub. yds. earth excavation. 100 cub. yds. excavation in rock. 650 cub. yds. brick masonry. 5,540 cub. yds. concrete. 1,000 pounds steel bars. 2,300 lin. ft. 6″ and 8″ underdrain. 310 M. ft. B. M. sheeting, shoring, etc. 14 manhole frames and covers. 240 manhole steps. 135 branches. 4,200 lin. ft. excavation for house-connections. 2,000 lin. ft. vitrified and cast-iron pipe house-connections. 3,200 lin. ft. vitrified pipe standpipe. 1,800 sq. ft. granolithic pavement relaid. 1,700 lin. ft. vitrified block and other pavement relaid. 200 sq. yds. waterproofing.	$171,367.75	$177,911.10	92 per cent.
Sanitary Contract No. 82, House Connections across footways in Districts Nos. 25, 27, 28, 34-A and 35.	Wm. McCarthy & Co.	Jan. 3, 1912	45,250 lin. ft. excavation for house-connections. 49,400 lin. ft. vitrified cast-iron pipe house-connections. 13,000 sq. ft. granolithic pavement relaid. 47,150 lin. ft. vitrified block and other pavement relaid. 800 branches. 10,000 ft. B. M. sheeting, shoring, etc.	$45,381.00	$49,871.00	Completed July 31, 1912.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 83, Nozzles for Sprinkling-Beds No. 4 and No. 3.	Pacific Flush Tank Co.	Feb. 3, 1912	1,200 nozzles and deflectors. 1,200 special castings.	$2,509.00	$2,900.00	Completed April 20, 1912.
Sanitary Contract No. 84, Lateral Sewers in Light and Gay Streets.	Ryan & Reilly.	Feb. 23, 1912	680 lin. ft. 10″ sewer. 40 lin. ft. 12″ sewer. 1,080 lin. ft. 15″ sewer. 283 lin. ft. 18″ sewer. 30 cub. yds. extra excavation below sub-grade. 21 cub. yds. concrete masonry. 600 lin. ft. 6″ underdrain. 106 M. ft. B. M. sheeting, shoring, etc. 120 lin. ft. manholes. 8 manhole frames and covers. 10 manhole steps. 1,150 lin. ft. vitrified and cast-iron pipe house-connections. 89 branches.	$12,832.25	$15,056.95	Completed April 30, 1912.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 85, House Connections District No. 14.	Gallagher, Boyle & Muller.	Feb. 20, 1912	18,700 lin. ft. excavation for house-connections. 18,500 lin. ft. vitrified and cast-iron house-connections. 16,000 sq. ft. granolithic pavement relaid. 14,000 lin. ft. vitrified block and other pavement relaid. 10 cub. yds. excavation in rock. 5 M. ft. B. M. sheeting, shoring, etc.	$24,711.50	$27,727.00	Completed July 3, 1912.
Sanitary Contract No. 86, Lateral Sewers in District No. 17.	B. F. Sweeten & Son.	April 15, 1912	2,850 lin. ft. 8″ sewer. 7,170 lin. ft. 10″ sewer. 3,050 lin. ft. 12″ sewer. 2,360 lin. ft. 15″ sewer. 100 cub. yds. excavation below sub-grade. 55 cub. yds. excavation in rock. 50 cub. yds. concrete masonry. 7,000 lin. ft. 4″ and 6″ underdrain. 556 M. ft. B. M. sheeting, shoring, etc. 1,425 lin. ft. manholes. 95 manhole frames and covers. 675 manhole steps. 7,550 lin. ft. excavation for house-connections. 8,000 lin. ft. vitrified and cast-iron pipe house-connections. 355 branches. 150 lin. ft. vitrified pipe standpipe. 8,600 sq. ft. granolithic pavement relaid. 350 lin. ft. vitrified block and other pavement relaid.	$92,424.35	$95,124.35	91 per cent.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 87, Lateral Sewers in District No. 18.	B. F. Sweeten & Son.	May 1, 1912	9,850 lin. ft. 8″ sewer. 20,800 lin. ft. 10″ sewer. 1,100 lin. ft. 12″ sewer. 700 lin. ft. 15″ sewer. 170 lin. ft. 18″ sewer. 600 lin. ft. 20″ sewer. 665 lin. ft. 22″ sewer. 565 lin. ft. 24″ sewer. 4,420 lin. ft. 27″ sewer. 200 cub. yds. excavation below sub-grade. 10 cub. yds. excavation in rock. 110 cub. yds. concrete masonry. 15,000 lin. ft. 4″ and 6″ underdrain. 480 M. ft. B. M. sheeting, shoring, etc. 2,715 lin. ft. manholes. 236 manhole frames and covers. 2,000 manhole steps. 35 drop-connections. 20,820 lin. ft. excavation for house-connections. 22,200 lin. ft. vitrified and cast-iron pipe house-connections. 1,530 branches. 600 lin. ft. vitrified pipe standpipe. 9 lamphole frames and covers. 1,000 lin. ft. gal. W. I. pipe. 28,000 sq. ft. granolithic pavement relaid. 14,100 lin. ft. vitrified block and other pavement relaid.	$163,976.00	$167,726.00	47 per cent.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 88, Lateral Sewers in District No. 40-B.	James Ferry & Sons.	May 2, 1912	30,500 lin. ft. 8″ sewer. 1,900 lin. ft. 10″ sewer. 800 lin. ft. 12″ sewer. 100 cub. yds. excavation below sub-grade. 35 cub. yds. concrete masonry. 3,500 lin. ft. 4″ and 6″ underdrain. 506 M. ft. B. M. sheeting, shoring, etc. 1,625 lin. ft. manholes. 185 manhole frames and covers. 1,250 manhole steps. 20,100 lin. ft. excavation for house-connections. 20,490 lin. ft. vitrified and cast-iron pipe house-connections. 2,235 branches. 340 lin. ft. vitrified pipe standpipe. 40 lamphole frames and covers. 700 sq. ft. granolithic pavement relaid. 4,550 lin. ft. vitrified block and other pavement relaid.	$84,904.50	$85,803.00	99 per cent.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 89, High Level Interceptor, Section No. 3.	H. C. Brooks & Co.	May 31, 1912	1,100 lin. ft. excavation above sub-grade. 90 cub. yds. extra excavation below sub-grade. 700 cub. yds. excavation in rock. 535 tons cast-iron pipe. 52 tons special castings. 445 cub. yds. concrete masonry. 375 lin. ft. 10″ and 24″ vitrified pipe. 500 pounds steel bars. 400 lin. ft. 4″ and 6″ underdrain. 45 M. ft. B. M. sheeting, shoring, etc. 5 special manholes. 5 manhole frames and covers. 45 manhole steps.	$44,840.00	$48,676.50	79 per cent.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 90, Miscellaneous Lateral Sewers.	Ryan & Reilly.	June 7, 1912	13,250 lin. ft. 8″ sewer. 2,100 lin. ft. 10″ sewer. 15 lin. ft. 22″ sewer. 95 lin. ft. 24″ sewer. 10 cub. yds. excavation in rock. 20 cub. yds. concrete masonry. 5,500 lin. ft. 4″ and 6″ underdrain. 135 M. ft. B. M. sheeting, shoring, etc. 710 lin. ft. manholes. 75 manhole frames and covers. 640 manhole steps. 8,850 lin. ft. excavation for house-connections. 8,975 lin. ft. cast-iron and vitrified pipe for house-connections. 896 branches. 4 lamphole frames and covers. 2,025 sq. ft. granolithic pavement relaid. 3,500 lin. ft. vitrified block and other pavement relaid.	$44,240.25	$44,636.40	94 per cent.
Sanitary Contract No. 91, Macadam Roadway at Back River.	Carozza & Lavezza.	July 12, 1912	600 cub. yds. excavation in roadway. 1,600 cub. yds. barrow. 3,100 sq. yds. macadam. 480 lin. ft. brick gutter.	$3,549.20	$3,731.00	Completed Oct. 22, 1912.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 92, House-Connections across Footway in District No. 15.	Gallagher, Boyle & Mueller.	June 21, 1912	23,000 lin. ft. excavation for house-connections. 24,500 lin. ft. vitrified and cast-iron pipe for house-connections. 10 cub. yds. excavation in rock. 5 M. ft. B. M. sheeting, shoring, etc. 225 branches. 13,000 sq. ft. granolithic pavement relaid. 18,500 lin. ft. vitrified block and other pavement relaid.	$30,697.50	$41,409.00	Completed Oct. 15, 1912.
Sanitary Contract No. 93, House-Connections across Footways in Districts Nos. 29 and 30.	Wm. McCarthy & Co.	July 16, 1912	56,775 lin. ft. excavation for house-connections. 60,900 lin. ft. vitrified and cast-iron pipe house-connections. 10 cub. yds. excavation in rock. 12 M. ft. B. M. sheeting, shoring, etc. 33,350 sq. ft. granolithic pavement relaid. 48,350 lin. ft. vitrified block and other pavement relaid. 1,276 branches.	$65,249.50	$71,164.75	85 per cent.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 94, Miscellaneous Lateral Sewers No. 2.	Gallagher, Boyle & Bryan.	Aug. 17, 1912	8,575 lin. ft. 8″ sewer. 120 lin. ft. 10″ sewer. 1,000 lin. ft. 15″ sewer. 500 lin. ft. 18″ sewer. 320 lin. ft. 20″ sewer. 50 cub. yds. extra excavation below subgrade. 50 cub. yds. concrete masonry. 1,400 lin. ft. 4″ and 6″ underdrain. 181 M. ft. B. M. sheeting, shoring, etc. 595 lin. ft. manholes. 62 manhole frames and covers. 425 manhole steps. 9,625 lin. ft. excavation for house-connections. 9,120 lin. ft. vitrified and cast-iron pipe house-connections. 692 branches. 2 lamphole frames and covers. 3,600 sq. ft. granolithic pavement relaid. 8,075 lin. ft. vitrified block and other pavement relaid.	$36,121.25	$38,599.75	82 per cent.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 95, High Level Interceptor, Section No. 6.	Ryan & Reilly.	Aug. 6, 1912	125 cub. yds. extra excavation below subgrade. 100 cub. yds. excavation in rock. 410 cub. yds. brick masonry. 3,195 cub. yds. concrete masonry. 1,000 pounds steel bars. 2,800 lin. ft. 6″ and 8″ underdrain. 410 M. ft. B. M. sheeting, shoring, etc. 14 manhole frames and covers. 250 manhole steps. 75 branches. 2,660 lin. ft. excavation for house-connections. 2,700 lin. ft. vitrified and cast-iron pipe house-connections. 600 sq. ft. granolithic pavement relaid. 925 lin. ft. vitrified block and other pavement relaid.	$109,383.50	$110,139.25	60 per cent.
Sanitary Contract No. 96, Digging Ditches at Back River.	.....	.....	.....	.....	.....	Bids rejected.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion o. Work Completed Dec. 31, 1912.
Sanitary Contract No. 97, Miscellaneous Lateral Sewers No. 3.	Gallagher, Boyle & Bryan.	Sept. 7, 1912	9,050 lin. ft. 8″ sewer. 210 lin. ft. 10″ sewer. 100 cub. yds. extra excavation below subgrade. 50 cub. yds. concrete masonry. 6,000 lin. ft. 4″ and 6″ underdrain. 511 M. ft. B. M. sheeting, shoring, etc. 535 lin. ft. manholes. 59 manhole frames and covers. 400 manhole steps. 7,215 lin. ft. excavation for house-connections. 7,495 lin. ft. vitrified and cast-iron pipe house-connections. 688 branches. 8 lamphole frames and covers. 350 lin. ft. gal. W. I. pipe, manhole to water main. 1,400 sq. ft. granolithic pavement relaid. 3,050 lin. ft. vitrified block and other pavement relaid.	$35,690.55	$35,797.30	40 per cent.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 98, House-Connections across Footways in District No. 26.	James Ferry & Sons.	Sept. 27, 1912	35,400 lin. ft. excavation for house-connections. 38,175 lin. ft. vitrified and cast-iron pipe house-connections. 16,000 sq. ft. granolithic pavement relaid. 37,575 lin. ft. vitrified block and other pavement relaid. 710 branches. 10 cub. yds. excavation in rock. 8 M. ft. B. M. sheeting, shoring, etc.	$39,846.75	$40,149.25	80 per cent.
Sanitary Contract No. 99, House-Connections in District No. 19-B.	Wm. McCarthy & Co.	Sept. 27, 1912	26,350 lin. ft. excavation for house connections. 28,250 lin. ft. vitrified and cast-iron pipe house-connections. 7,375 sq. ft. granolithic pavement relaid. 14,500 lin. ft. vitrified block and other pavement relaid. 460 branches. 8 M. ft. B. M. sheeting, shoring, etc.	$31,358.00	$33,512.00	63 per cent.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 100, Sprinkling Filters, Disposal Plant.	Lane Bros. Co.	Oct. 10, 1912	10,100 cub. yds. excavation. 2,200 cub. yds. embankment. 10 M. ft. B. M. sheeting, shoring, etc. 930 lin. ft. 6″ and 12″ vitrified pipe drain. 824,000 lin. ft. slotted tile slabs. 26,500 cub. yds. concrete masonry. 570 cub. yds. dry rubble masonry. 650,000 pounds reinforcing rods. 655 tons cast-iron bell and spigot pipe. 210 tons special castings. 10,000 pounds pipe hangers. 96 hydrants. 3,498 cast-iron risers. 21 manhole frames and covers. 1 screen chamber house.	$400,772.00	$454,507.50	None.
Sanitary Contract No. 101, Broken Stone, Disposal Plant.	Standard Lime & Stone Co.	Oct. 3, 1912	245,000 cub. yds. broken stone.	$487,550.00	$525,525.00	None.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 102, High Level Interceptor, Section No. 7.	C. B. Clark & Co.	Oct. 16, 1912	13,520 cub. yds. excavation in trench. 1,920 cub. yds. excavation in tunnel. 100 cub. yds. excavation below sub-grade. 100 cub. yds. excavation in rock. 505 cub. yds. brick masonry. 3,700 cub. yds. concrete masonry. 1,000 pounds steel bars. 2,800 lin. ft. 6″ and 8″ underdrain. 475 M. ft. B. M. sheeting, shoring, etc. 13 manhole frames and covers. 250 manhole steps. 30 branches. 1,680 lin. ft. excavation for house-connections. 1,140 lin. ft. house-connections. 600 sq. ft. granolithic pavement relaid. 1,550 lin. ft. vitrified block and other pavement relaid.	$117,503.10	$124,551.50	2 per cent.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 103, Locust Point Trunk Sewer, Section No. 1.	Ryan & Reilly.	Oct. 16, 1912	4,190 lin. ft. 30″ sewer. 1,200 lin. ft. 8″ sewer. 40 cub. yds. concrete masonry. 2,200 lin. ft. 4″ and 6″ underdrain. 230 M. ft. B. M. sheeting, shoring, etc. 200 lin. ft. manholes. 17 manhole frames and covers. 115 manhole steps. 1,650 lin.ft. excavation for house-connections. 1,945 lin. ft. house-connections. 123 branches.	$38,733.65	$39,047.25	25 per cent.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 104, Lateral Sewers in District No. 40-A.	Wm. McCarthy & Co.	Nov. 6, 1912	23,500 lin. ft. 8″ sewer. 2,000 lin. ft. 10″ sewer. 2,775 lin. ft. 12″ sewer. 1,100 lin. ft. 15″ sewer. 100 cub. yds. excavation below sub-grade. 70 cub. yds. concrete masonry. 3,000 lin. ft. 4″ and 6″ underdrain. 283 M. ft. B. M. sheeting, shoring, etc. 1,625 lin. ft. manhole. 192 manholes. 750 manhole steps. 11,850 lin. ft. excavation for house-connections. 12,000 lin. ft. vitrified and cast-iron pipe house-connections. 1,600 branches. 20 lamp hole frames and covers. 375 sq. ft. granolithic pavement relaid. 1,275 lin. ft. vitrified block and other pavement relaid.	$80,289.75	$87,472.25	10 per cent.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Sanitary Contract No. 105, House-Connections across Footways in Districts Nos. 36-A and 40-A.	Carozza & Lavezza.	Nov. 30, 1912	24,050 lin. ft. excavation for house-connections. 25,840 lin. ft. vitrified and cast-iron pipe house-connections. 6,750 sq. ft. granolithic pavement relaid. 22,360 lin. ft. vitrified block and other pavement relaid. 280 branches. 7 M. ft. B. M. sheeting, shoring, etc.	$20,768.45	$21,531.25	15 per cent.
Sanitary Contract No. 106, House-Connections across Footways in Districts Nos. 19-A and 21.	Wm. McCarthy & Co.	Dec. 30, 1912	34,575 lin. ft. excavation for house-connections. 36,715 lin. ft. vitrified and cast-iron pipe house-connections. 9,700 sq. ft. granolithic pavement relaid. 32,100 lin. ft. vitrified block and other pavement relaid. 515 branches. 9 M. ft. B. M. sheeting, shoring, etc.	$37,834.25	$40,092.90	None.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Storm Water Contract No. 17.	N. A. Middleton & Co.	Jan. 2, 1912	170 cub. yds. concrete masonry. 18,000 pounds iron castings. 30,000 pounds reinforcing steel. 3 M. ft. B. M. sheeting, shoring, etc.	$5,439.50	$6,151.00	Completed July 6, 1912.
Storm Water Contract No. 18.	Wm. McCarthy & Co.	Jan. 3, 1912	18,820 lin. ft. 30″ to 48″ circular drain. 18,945 lin. ft. 15″ to 30″ vitrified pipe drain. 8,150 lin. ft. 12″ to 18″ inlet connections. 13 cub. yds. brick masonry. 340 cub. yds. concrete masonry. 50,000 pounds steel bars. 3,400 lin. ft. 4″ to 8″ underdrain. 115 M. ft. B. M. sheeting, shoring, etc. 1,100 cub. yds. excavation in rock. 136 manhole frames and covers. 1,020 lin. ft. manholes. 700 manhole steps. 360 inlets. 272 heads for inlets. 500 lin. ft. new granite curb. 800 lin. ft. curb removed and reset. 100 sq. yds. gutters and cobble pavement removed and reset.	$111,894.90	$120,093.64	Completed Sept. 29, 1912.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Storm Water Contract No. 19.	B. F. Sweeten & Son.	Mar. 18, 1912	2,715 lin. ft. 33″ and 36″ circular drain. 14,855 lin. ft. 12″ to 30″ vitrified pipe drain. 5,225 lin. ft. 12″ to 18″ inlet connections. 302 cub. yds. concrete masonry. 200 pounds steel bars. 200 pounds expanded metal for reinforcing. 2,500 lin. ft. 4″ and 6″ underdrain. 80 M. ft. B. M. sheeting, shoring, etc. 50 cub. yds. excavation in rock. 91 manhole frames and covers. 620 lin. ft. manholes. 475 manhole steps. 176 inlets. 169 heads for inlets. 1,000 lin. ft. new granite curb. 200 lin. ft. curb removed and reset.	$51,284.85	$59,405.95	92 per cent.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Storm Water Contract No. 20.	Ryan & Reilly.	April 25, 1912	30 lin. ft. 30″ circular drain. 20 lin. ft. 24″ flat top drain. 4,010 lin. ft. 15″ to 24″ vitrified pipe drain. 1,860 lin. ft. 12″ to 15″ inlet connections. 122 cub. yds. concrete masonry. 100 pounds expanded metal for reinforcing. 300 lin. ft. 4″ underdrain. 21 M. ft. B. M. sheeting, shoring, etc. 31 manhole frames and covers. 196 lin. ft. manholes. 150 manhole steps. 79 inlets. 74 heads for inlets. 400 lin. ft. new granite curb. 400 lin. ft. curb removed and reset.	$18,895.00	$19,217.55	Completed Nov. 1, 1912.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Storm Water Contract No. 21.	C. B. Clark & Co.	July 13, 1912	12,075 lin. ft. 30″ to 48″ circular drain. 12,810 lin. ft. 12″ to 30″ vitrified pipe drain. 30 lin. ft. 24″ flat top drain. 5,585 lin. ft. 12″ to 18″ inlet connections. 103 cub. yds. brick masonry. 995 cub. yds. concrete masonry. 32,000 pounds steel bars. 5,100 pounds expanded metal for reinforcing. 4,100 lin. ft. 4″ to 8″ underdrain. 225 M. ft. B. M. sheeting, shoring, etc. 4,800 lin. ft. lumber driven and cut off. 350 cub. yds. excavated in rock. 85 manhole frames and covers. 590 lin. ft. manholes. 425 manhole steps. 640 inlets. 22 catch-basins. 215 heads for inlets and catch-basins. 1,500 lin. ft. new granite curb. 550 lin. ft. curb removed and reset.	$103,316.45	$103,771.55	87 per cent.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Storm Water Contract No. 22.	B. F. Sweeten & Son.	Oct. 8, 1912	28,920 lin. ft. 30″ to 48″ circular drain. 11,680 lin. ft. 12″ to 30″ vitrified pipe drain. 430 lin. ft. 52″ x 36″ reinforced concrete drain. 50 lin. ft. 24″ flat top drain. 7,300 lin. ft. 12″ to 18″ inlet connections. 65 cub. yds. brick masonry. 1,265 cub. yds. concrete masonry. 42,000 pounds steel bars. 10,000 pounds expanded metal for reinforcing. 4,200 lin. ft. 4″ to 8″ underdrain. 325 M. ft. B. M. sheeting, shoring, etc. 500 lin. ft. lumber driven and cut off. 115 manhole frames and covers. 860 lin. ft. manholes. 530 manhole steps. 762 inlets. 100 catch-basins. 258 heads for inlets and catch-basins. 1,500 lin. ft. new granite curb. 550 lin. ft. curb removed and reset.	$164,972.72	$165,251.35	7 per cent.

TABLE No. 3—*Continued.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Storm Water Contract No. 23.	Wm. McCarthy & Co.	Oct. 25, 1912	1,368 lin. ft. 15″ to 24″ vitrified pipe drain. 770 lin. ft. 12″ to 15″ inlet connections. 100 lin. ft. 4″ underdrain. 6 M. ft. B. M. sheeting, shoring, etc. 15 manhole frames and covers. 87 lin. ft. manholes. 75 manhole steps. 23 inlets. 11 heads for inlets.	$5,990.27	$7,593.03	18 per cent.
Storm Water Contract No. 24.	B. F. Sweeten & Son.	Dec. 27, 1912	28,415 lin. ft. 30″ to 42″ circular drain. 22,530 lin. ft. 15″ to 30″ vitrified pipe drain. 45 lin. ft. 24″ flat top drain. 1,520 lin. ft. 15″ to 30″ circular drain. 11,075 lin. ft. inlet connections. 55 cub. yds. brick masonry. 610 cub. yds. concrete masonry. 2,600 pounds steel bars. 400 pounds expanded metal for reinforcing. 3,500 lin. ft. 4″ to 8″ underdrain. 350 M. ft. B. M. sheeting, shoring, etc. 500 cub. yds. excavation in rock. 200 manhole frames and covers. 1,420 lin. ft. manholes. 1,125 manhole steps. 406 inlets. 365 heads for inlets. 1,500 lin. ft. new granite curb. 1,000 lin. ft. curb removed and reset.	$166,194.00	$187,244.15	None.

TABLE No. 3—*Concluded.*

STATEMENT OF CONTRACTS LET DURING THE YEAR 1912, WITH PROPORTION OF WORK COMPLETED DECEMBER 31.

Contract.	Name of Contractor.	Date of Contract.	Principal Items of Work.	Lowest Bid.	Next to Lowest Bid.	Proportion of Work Completed Dec. 31, 1912.
Storm Water Contract No. 25.	James Ferry & Sons.	Dec. 31, 1912	47,950 cub. yds. excavation in open trench for 12′ 0″ x 12′ 3″ horseshoe drain. 1,650 lin. ft. excavation in tunnel for 12′ 0″ x 12′ 3″ horseshoe drain. 10 cub. yds. excavation in rock. 625 cub. yds. brick masonry. 13,090 cub. yds. concrete masonry. 555 M. ft. B. M. sheeting, shoring, etc. 7 manhole frames and covers. 60 manhole steps. 245 lin. ft. manholes. 5,000 pounds steel bars. 4,230 lin. ft. 6″ and 8″ underdrain.	$279,990.25	$283,562.25	None.

TABLE No. 4.

LENGTHS OF SANITARY SEWERS OF THE VARIOUS SIZES AND MATERIALS CONSTRUCTED TO DECEMBER 31, 1912.

Size and Shape.	Material.	Constructed Prior to 1912. Linear Feet.	Constructed During 1912. Linear Feet.	Constructed to Dec. 31, 1912. Linear Feet.
11′ x 12′ 3″ Horseshoe	Brick and Concrete	26,351.80	.....	26,351.80
10′ 9″ x 12′ Horseshoe	Brick and Concrete	3,879.21	.....	3,879.21
100″ Circular	Brick and Concrete	5,109.28	.....	5,109.28
99″ Circular	Brick and Concrete	4,610.45	.....	4,610.45
84″ Circular	Brick and Concrete	359.56	180.00	539.56
82″ Circular	Brick and Concrete	400.00	2,699.00	3,099.00
80″ Circular	Brick and Concrete	727.00	2,586.00	3,313.00
76″ Circular	Brick and Concrete	633.60	.....	633.60
75″ Circular	Brick and Concrete	1,594.92	.....	1,594.92
74″ Circular	Brick and Concrete	1,931.00	.....	1,931.00
72″ Circular	Brick and Concrete	.....	1,473.00	1,473.00
66″ Circular	Brick and Concrete	2,011.67	.....	2,011.67
64″ Circular	Brick and Concrete	2,488.75	.....	2,488.75
61″ Circular	Brick and Concrete	.....	829.00	829.00
60″ Circular	Brick and Concrete	5,225.18	.....	5,225.18
56″ Circular	Brick and Concrete	367.17	.....	367.17
57″ Circular	Brick and Concrete	742.90	.....	742.90
55″ Circular	Brick and Concrete	963.88	216.00	1,179.88
52″ Circular	Brick and Concrete	893.72	.....	893.72
51″ Circular	Brick and Concrete	2,054.98	.....	2,054.98
50″ Circular	Brick and Concrete	791.78	.....	791.78
48″ Circular	Brick and Concrete	869.94	.....	869.94
45″ Circular	Brick and Concrete	1,440.00	.....	1,440.00
42″ Circular	Cast-Iron Pipe	10,570.00	1,409.63	11,979.63
36″ Circular	Cast-Iron Pipe	.....	685.00	685.00
36″ Circular	Brick and Concrete	63.61	.....	63.61
30″ Circular	Brick and Concrete	104.20	500.00	604.20

TABLE No. 4—*Concluded.*

LENGTHS OF SANITARY SEWERS OF THE VARIOUS SIZES AND MATERIALS CONSTRUCTED TO DECEMBER 31, 1912.

Size and Shape.	Material.	Constructed Prior to 1912. Linear Feet.	Constructed During 1912. Linear Feet.	Constructed to Dec. 31, 1912. Linear Feet.
30″ Circular	Terra-Cotta Pipe	89.20	.....	89.20
27″ Circular	Brick and Concrete	3,426.27	48.33	3,474.60
27″ Circular	Terra-Cotta Pipe	.....	3,012.50	3,012.50
24″ Circular	Terra-Cotta Pipe	7,924.12	1,777.34	9,701.46
24″ Circular	Cast-iron Pipe	297.36	.....	297.36
22″ Circular	Terra-Cotta Pipe	10,789.61	2,018.20	12,807.81
20″ Circular	Terra-Cotta Pipe	4,800.50	1,652.33	6,452.83
18″ Circular	Terra-Cotta Pipe	7,436.86	1,767.98	9,204.84
16″ Circular	Cast-Iron Pipe	1,240.44	.....	1,240.44
15″ Circular	Terra-Cotta Pipe	18,124.62	7,533.39	25,658.01
12″ Circular	Terra-Cotta Pipe	17,888.00	10,288.14	28,096.14
10″ Circular	Terra-Cotta Pipe	48,647.10	32,530.90	81,178.02
10″ Circular	Cast-Iron Pipe	24.00	835.50	859.50
8″ Circular	Cast-Iron Pipe	492.40	.....	492.40
8″ Circular	Terra-Cotta Pipe	373,946.01	182,686.23	556,632.24
Total length	.....	569,228.09	254,728.46	823,956.55
House-connections	.....	222,498.82	342,299.97	564,798.79
Grand total	.....	791,726.91	597,028.43	1,388,755.34
Manholes		2,923	1,394	4,317
Lampholes		278	147	425
Spurs		31,413	17,243	48,656

TABLE No. 5.

LENGTH OF STORM-WATER DRAINS OF THE VARIOUS SIZES AND MATERIALS CONSTRUCTED TO DECEMBER 31, 1912.

Size.	Materials.	Constructed Prior to 1912. Linear Feet.	Constructed During 1912. Linear Feet.	Total to Dec. 31, 1912. Linear Feet.
Double Rectangular, 84″ x 60″.	Concrete and Brick (Reinf.)	108.30	.....	108.30
Double Rectangular, 69″ x 50″.	Concrete and Brick (Reinf.)	2,856.91	.....	2,856.91
Rectangular, 14′ x 7′ 6″	Concrete and Brick (Reinf.)	367.00	80.80	447.80
Rectangular, 72″ x 51″	Concrete and Brick (Reinf.)	.....	764.30	764.30
Rectangular, 69″ x 36″	Concrete and Brick (Reinf.)	.....	208.00	208.00
Rectangular, 66″ x 45″	Reinforced Concrete	1,470.30	.....	1,470.30
Rectangular, 60″ x 42″	Concrete and Brick (Reinf.)	785.90	.....	785.90
Rectangular, 60″ x 30″	Concrete and Brick (Reinf.)	76.79	.....	76.79
Horseshoe, 138″ x 132″	Concrete and Brick (Reinf.)	125.13	.....	125.13
Horseshoe, 138″ x 99″	Concrete and Brick (Reinf.)	260.00	1,952.22	2,212.22
Horseshoe, 114″	Concrete and Brick	244.65	.....	244.65
Horseshoe 87″	Concrete and Brick	1,013.00	287.28	1,300.28
Double Line, 30″	Cast-Iron Pipe	645.17	.....	645.17
Circular, 114″	Concrete and Brick	1,112.69	.....	1,112.69
Circular, 96″	Concrete and Brick	3,451.55	.....	3,451.55
Circular, 72″	Concrete and Brick	1,259.91	.....	1,259.91
Circular, 69″	Concrete and Brick	1,926.04	.....	1,926.04
Circular, 66″	Concrete and Brick	169.35	.....	169.35
Circular, 62″	Concrete and Brick (Reinf.)	245.64	.....	245.64
Circular, 60″	Concrete and Brick	163.49	69.60	233.09
Circular, 57″	Concrete and Brick	83.47	.....	83.47
Circular, 54″	Concrete and Brick (Reinf.)	995.32	757.73	1,753.05

TABLE No. 5—*Continued.*

LENGTH OF STORM-WATER DRAINS OF THE VARIOUS SIZES AND MATERIALS CONSTRUCTED TO DECEMBER 31, 1912.

Size.	Materials.	Constructed Prior to 1912. Linear Feet.	Constructed During 1912. Linear Feet.	Total to Dec. 31, 1912. Linear Feet.
Circular, 48″	Cast-Iron Pipe	41.99	.....	41.99
Circular, 48″	Brick	1,453.27	.....	1,453.27
Circular, 48″	Concrete and Brick	702.34	12.50	714.84
Circular, 48″	Concrete	1,054.83	569.42	1,624.25
Circular, 45″	Concrete	465.00	6.51	471.51
Circular, 42″	Cast-Iron Pipe	34.35	.....	34.35
Circular, 42″	Brick	1,689.96	.....	1,689.96
Circular, 42″	Concrete and Brick	1,751.59	.....	1,751.59
Circular, 42″	Concrete	2,282.52	1,849.95	4,132.47
Circular, 36″	Cast-Iron Pipe	.....	24.00	24.00
Circular, 36″	Brick	600.81	48.16	648.97
Circular, 36″	Concrete and Brick	7,017.89	206.02	7,223.91
Circular, 36″	Concrete	6,055.19	4,959.24	11,014.43
Circular, 33″	Brick	38.23	6.12	44.35
Circular, 33″	Concrete and Brick	5,299.37	2,705.24	8,004.61
Circular, 33″	Concrete	.....	2,642.60	2,642.60
Circular, 30″	Cast-Iron Pipe	914.33	114.00	1,028.33
Circular, 30″	Brick	190.50	45.17	235.67
Circular, 30″	Concrete and Brick	8,022.12	2,274.39	10,296.51
Circular, 30″	Vitrified Pipe	944.00	1,508.19	2,452.19
Circular, 30″	Concrete	4,522.68	4,849.09	9,371.77

TABLE No. 5—*Concluded.*

LENGTH OF STORM-WATER DRAINS OF THE VARIOUS SIZES AND MATERIALS CONSTRUCTED TO DECEMBER 31, 1912.

Size.	Materials.	Constructed Prior to 1912. Linear Feet.	Constructed During 1912. Linear Feet.	Total to Dec. 31, 1912. Linear Feet.
Circular, 24″	Cast-Iron Pipe	494.13	5.87	500.00
Circular, 24″	Terra-Cotta Pipe	31,884.04	15,822.52	47,706.56
Circular, 20″	Cast-Iron Pipe	371.63	39.20	410.83
Circular, 20″	Terra-Cotta Pipe	11,195.87	7,222.85	18,418.72
Circular, 18″	Terra-Cotta Pipe	25,653.67	15,744.12	41,397.79
Circular, 18″	Cast-Iron Pipe	.....	26.50	26.50
Circular, 15″	Terra-Cotta Pipe	22,268.18	12,800.43	35,068.61
Circular, 15″	Cast-Iron Pipe	.....	38.70	38.70
Circular, 12″	Cast-Iron Pipe	5,771.87	325.70	6,597.57
Circular, 10″	Cast-Iron Pipe	.....	190.00	190.00
Circular, 8″	Cast-Iron Pipe	.....	156.93	156.93
Circular, 6″	Cast-Iron Pipe	.....	219.84	219.84
Jones Falls Conduits	Reinforced Concrete	285.00	2,304.00	2,589.00
Horseshoe, 96″ x 93″	Concrete and Brick	56.00	.....	56.00
Inlet Connections, 10″ to 20″	Terra-Cotta Pipe	35,493.62	24,675.97	60,169.59
Grand totals	.....	193,915.59	106,013.16	299,928.75
Inlets and Catch Basins		1,244	842	2,086
Manholes and Drop Wells		977	492	1,469

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